GAME METHOD USING BETS, VARIANTS AND DEVICE FOR REALISING THE SAME

FIELD OF THE INVENTION

The present invention relates to multi-user games and entertainment industry, in particular to methods and systems for running games and lotteries based on the principle of wagering on information elements of a designated game set.

BACKGROUND OF THE INVENTION

In a known television lottery game "Russkoje Loto", a game set of N=90 information elements is designated as a set of integers from 1 to 90, and registered lottery tickets [carrying on] bearing an information bar with [an individual, for every ticket,] a gambling combination of 30 information elements of the game set particular to each ticket, are sold to players prior to the drawing [process takes place]. The aforementioned gambling combination is compiled in 6 lines each containing 5 elements, and these lines are divided into 2 groups each containing 3 lines. During TV-broadcast of the prize-drawing process, [in which] under computer supervision only, sold tickets are taken into consideration, and a game operator chooses successively and randomly numbers from the game set and [informs of them] communicates these numbers to the players who compare the chosen information elements: numbers with the numbers of the information bar [carried] on their tickets and mark in [the code] a section of the ticket that includes the game set those numbers [coinciding] that coincide with the chosen numbers, should the coincidence occur[s]. The winning tickets are determined during several rounds of the prize fund drawing process: the first round winner is a ticket in which all 5 elements of any line are marked [earlier than] before in any other tickets, the second round winner is a ticket in which all 15 elements of one of the groups are marked [earlier than] before in any other tickets, the third and subsequent round winner is a ticket in which all 30 numbers of the gambling combination are marked [earlier than] before in any other tickets [(see, Internet URL http://www.rusloto.ru)]. See the publicly available rules for "Rusloto".

In much the same way as in "Russkoje Loto", a prize fund drawing process is the basis for a known lottery game "Bingo" and its TV-versions [(see, Internet URL http://www.dux.ru/enpp/tv/bingo/rules.htm)].

The drawback with these games consists in that the players are deprived themselves of wagering and affecting the prize-drawing outcomes, since the wagers of each player are in fact predetermined by a unique gambling combination of information elements of a purchased ticket and the prize-drawing outcomes are fully dependent on actions of the game organizers. This drawback lowers the interest of potential participants in such games.

A known Russian lottery game "Sportloto" comprises: (i) designation of the game set as a table of N=45 information elements – integers from 1 to 45 (a "6 of 45" version) or a table of N=36 `information elements – integers from 1 to 36 (a "5 of 36" version)[,]: (ii) distribution, among potential players, of lottery coupons [carrying the] bearing game set [on them] in a form of [the indicated] tables and also [a unique, for every coupon,] identification data[,]: (iii) entering by each player in the game set table of the lottery coupon [of] 6 marks about the wagers on 6 intentional information elements of the game set for the "6 of 45" version and 5 marks for the "5 of 36" version[,]: (iv) return of the coupons with the marks about the wagers on them to the game organizer by a fixed time[,]: (v) registration of the returned coupons with the wager marks on them and a wager drawing at a predetermined TV-broadcast time in a process of random [choosing] selection of a combination of winning elements from the game set, while indicating the money awards depending on the number of right guessed elements in the winning combination (Russian Federation Patent No. 2,023,307, 1994, G07C 15/00).

Players in this game wager themselves; however, a huge number of possible winning combinations provides an extremely low winning probability, which also lowers the interest to participate in the game. Indeed, in the "6 of 45" lottery version the overall number of possible winning combinations amounts to 8,145,060, while the first-category prize (all 6 numbers of the winning combination are guessed right) can be won by only one of them, the second-category prize (5 numbers of the winning combination are guessed right) – by 234 of them, the third-category prize (4 numbers of the winning combination are guessed right) – by 11,115 of them. In the "5 of 36" lottery version the overall number of possible winning combinations amounts to 376,992, while the first-category prize (all 5 numbers of the winning combination are guessed right) falls on one of them, the second-category prize (4 numbers of the winning combination are guessed right) – on 155 of them, the third-category prize (3 numbers of the winning combination are guessed right) – on 4,650 of them. Moreover, the wagers of the game players do not affect in any way the prize-drawing process, which does not promote the attractiveness of the game.

Another drawback with the "Sportloto" lottery consists in the [organization] complexity of [its] running the lottery, due to the necessity [to] of [produce] producing a large number of lottery coupons, their sale to the population, [mail] mailing of marked coupons back over large distances, sorting of received coupons by draws, recognition of hand-written characters, and all that has to be done [at extra] with increased risks of [fraud] fraudulent [coupons] distribution of coupons and/or fraud [actions of some] by the considerable number of employees [among the considerable number of those] involved in this process.

The influence of the aforementioned factors of the organization complexity of running "Sportloto"-like lotteries becomes lower in the state lotteries run in the USA and Canada, in which generally the same principle of wagering and wager drawing is realized by means of lottery coupons distribution and wager registration using remote electronic terminals at lottery retail outlets, said terminals transmitting via telephone networks to a host computer signals with information on sold coupons and their wager marks (for example US Patent No. 5,186,463, 1993, A63F 3/06). Analogous technical means are used in a Russian electronic lottery "Lotto Million" with weekly prize-drawings through a national Russian TV channel.

To simplify the process of lottery running and, in particular to reduce a volume paper documents processed, a computerized telephone game system has been invented on the basis of a touch-tone telephone set and a host computer, which by means of ramified algorithm and a set of various prerecorded voice messages provides callers with: (i) registration as game players identified by personal identification numbers (PINs), (ii) game credits purchase via credit cards, (iii) wager [enter] entry and registration of virtual game coupons associated with the wagers (US Patent No. 5,415,416, 1995, A63F 9/22). This technical solution also provides for the integration of the host computer with a caller's phone number identification unit and a billing software for charging the identified phone numbers, which makes the system accessible to players without credit cards. In accordance with the patent specification, the system is designed for running lotteries with registration of combinations of numbers selected from predetermined sets of numbers as wagers until the beginning of the prize-drawing process by means of random choosing the winning combinations by the game organizer; in so doing, on players' request the system itself can randomly wager on behalf of the player.

There is also known a method of a telephone lottery wagering game "Indexloto 10 out of 10" comprising on-the-phone registration by players (until the beginning of drawing) of

game indexes consisting of non-repeating digits (Russian Federation Patent No. 2,053,827, 1996, A63F 3/06). At a predetermined time, the game organizer carries out the prize-drawing by means of random choice of a winning sequence of 10 non-repeating digits. The prize fund is allocated among the players whose registered indexes fully or in part (6 or more digits) coincide with the winning sequence; in so doing, the wager charging procedure is similar to that used for charging phone number holders for telecommunication. In this game, the overall number of various combinations equaled 3,628,800 give rise to its high potential yield for organizers, but fails to stimulate raise in interest of potential players, thus leaving the game on the same playing interest level as "Sportloto"-type lotteries.

In comparison with lotteries using lottery coupons, computerized telephone games are not only more simple from the point of view of the game process organization but are more attractive to potential players because of accessibility of the telephony.

The closest prior art with respect to the subject matter of the present invention has been described in a wagering game method implemented in the Canadian state lottery "6 of 49", which enables participation (apart from buyers of lottery coupons at remote electronic terminals) to any user of the international computer network Internet having at least one of the worldwide accepted credit cards for paying his or her wagers and receiving possible wins [(Internet resource http://www.cimltd.com/lotto)]. In this game, the game set of N=49 elements is designated in a central game computer as a set of N non-repeating information codes each being the binary code of one of the integers from 1 to 49. Everyone who wishes to participate in the game, via the Internet telecommunication lines on his or her personal computer, receives signals carrying information about the players' registration form and possible versions of charging the wager costs. Filled-in registration forms with marked payment options are returned as a set of signals through the Internet channels to the central computer and, when verified, recorded to the long-term memory for further identification of players and charging of wager costs. Thereupon, signals carrying information about the game set elements and also information about scheduled game rounds in which the wager drawing will be run, are transmitted from the central game computer to the personal computer of a registered player. From this information, every player chooses a combination of 6 elements as his or her wagers and, before the next round begins, transmits via the Internet channels to the central game computer signals identifying the given player and carrying information about his or her wagers. In the host computer, signals received from the players are identified, registered and memorized while charging the players who have sent the signals. When it is time to begin the next game round, registration of signals with wagers for that round ceases

and the game organizer chooses randomly from the game set 6 elements which will make up a winning combination. Thereupon, the recorded signals with wager information are compared with the information codes of the winning combination, which results in the recognition of signals containing information about 4 and more wagers of the winning combination and identification of players who have placed those wagers and among whom the prize fund, as part of the total game round budget collected from the payment of wagers, is allocated in accordance with the game regulations.

Despite the technical attractiveness of the wagering game method embodied in this closest prior art, this method, from the point of view of principles constituting the basis of wager drawing, is similar to the "Sportloto" lottery and therefore possesses the same basic disadvantages.

As a result of analyzing the current situation in the industry of multi-user games and lotteries with wagers on information elements of game sets, common disadvantages may consist both in their redundant multiplicity of possible variants of a winning combination, thus causing a rare probability of a large win, and the complete exclusion of players from the process of forming the winning information elements. These disadvantages lower the playing attractiveness of the games, cause mistrust of some potential players towards the organizers and, besides, call forth the lack of sporting and intellectual competitive strength with the aforementioned multi-user games.

SUMMARY OF THE INVENTION

The present invention addresses the task of expanding the [arsenal of] technical solutions related to methods and apparatuses for running wagering games. In comparison with the known methods and apparatuses of similar purpose, the claimed invention enables qualitative increase in the game entertainment level and provides dependence of the drawing outcomes upon the actions of players, thus increasing the attractiveness of the games to potential players and, moreover, enables such games to feature sporting and intellectual competition attributes.

~~The indicated result is achieved in a wagering game method which comprises forming of a game set of N>1 information elements by means of generation of a set of N non-repeating information codes in a computer memory, propagation, among the players through communication lines, of signals carrying information about the game set elements, selection by every player of one of the game set elements as a wager, forwarding, through feedback~~

communication lines, of signals which identify the players and carry information about the wagers, identification and registration of signals received through feedback lines, forming of a wager payment data, a wager drawing within playing rounds, wherein signals carrying wager information are registered as a sequence of signals in the order of signal arrival through feedback lines, said sequence is kept hidden from the players until the playing round is completed, and the wager drawing is carried out by means of an iterative analytical process of forming a quantitative wager distribution among the game set elements, said process is kept hidden from the players until the playing round is completed, and within every iteration of the said process a regular signal of a registered signal sequence is correlated with the information code of the game set element selected as a wager by the player, the number of signals correlated with the information code of the game set element within the current playing round is determined, observation of conditions of a wager drawing end is checked, and a wager drawing is completed as soon as the said conditions are observed, and in the presence of registered wager information carrying signals not processed by the iterative analytical wager drawing process before the completion of the current playing round the said signals are processed by the iterative analytical wager drawing process within one of the next rounds.

Distinctive features of the iterative analytical wager drawing process which differ one particular embodiment of the presently claimed method from another and consist in the conditions of completion of the iterative analytical wager drawing process, affords a varying degree of attractiveness and profitableness profitability of the game for both players and organizers.

The simplest modification of the above described embodiment of a wagering game method is a method in which within every iteration of a wager drawing process, or starting with the N-iteration, information codes are revealed with which no signal has been correlated within the current playing round, and the iterative analytical wager drawing process is completed in the processing of a signal containing information about a wager on the only game set element with whose information code no signal has been correlated by the iterative analytical process within the current playing round before the processing of this signal.

This particular embodiment of the wagering game method called "Force of Zero", when assigning the aforementioned only game set element to be a winner in the playing round completed, makes it possible to reveal a winner right after his or her wager is processed, that is from the point of view of players, it is the game with an instantaneous

outcome of drawing their wagers, and enables, on the average, profitableness of the game for its organizer when awarding a prize, up to the sum which is equal to the cost of N wagers.

Another embodiment of a wagering game method is a method according to which within every iteration of a wager drawing process, or starting with the (2N-1) iteration, information codes are revealed with which only one signal has been correlated within the current playing round, and the iterative-analytical wager drawing process is completed in the presence of only one said information code and in the absence of information codes with which no signal has been correlated by the iterative-analytical process within the current playing round before the processing of this signal.

This particular embodiment of the wagering game method called "Force of Minimum", when placing the only game set element on which only one wager has been assigned to be a winner in the playing round completed, not always makes it possible to reveal a winner right after his or her wager is processed, since a wager on a winning game set element may be fixed in the quantitative distribution of wagers of the current playing round during several iterations before the completion of the iterative-analytical process, thereby resulting in a conclusion of players that such a game is the game with a postponed outcome of drawing their wagers. However, in virtue of a random character of the signal traffic with wagers, the budget of each round of a "Force of Minimum" game may not be lesser than the cost of 2N-1 wagers, and the game organizer is able to assign a fixed prize in the amount of the sum total paid for N wagers with respect to the only wager won, while enabling his own profitability level of the game which is no less than 50 %(1-0.5N) of the total sum charged for wagers participating in the game.

Yet another embodiment of a wagering game method with wagers with N>2 game set elements is the most attractive from the point of view of the playing interest and profitability for both players and organizers of the game. In that embodiment, within every iteration of a wager drawing process, or starting with the 2N iteration, information codes are revealed with which the minimum and the maximum number of signals have been correlated within the current playing round, and the iterative-analytical wager drawing process is completed in the presence of only one information code with which the minimum number of signals has been correlated within the current playing round, of only one information code with which the maximum number of signals has been correlated within the current playing round, and in the absence of information codes with which no signal has been correlated within the current playing round.

This particular embodiment of the wagering game method called "Force of Minimax", when placing the only game set element on which the minimum number of wagers has been staked and/or the only game set element on which the maximum number of wagers has been staked to be a winner in the playing round completed, not always makes it possible to reveal a winner right after his or her wager is processed, since a wager on a winning game set element may be fixed in the quantitative distribution of wagers of the current playing round during several iterations before the completion of the iterative-analytical process, thereby resulting in a conclusion of players that such a game is the game with a postponed outcome of drawing their wagers. However, in case where a revealed global minimum of a total wager distribution is determined as the only winning game set element, it is possible that several winning wagers appear simultaneously, and the game organizer is able to assign a guaranteed minimum prize with respect to each winning wager in the amount of the sum total paid for N wagers, while enabling his or her own profitability level of the game which is no less than 50 % of the total sum charged for wagers participating in the game.

The solution of the aforementioned task with the achievement of a total result is also ensured in yet another embodiment of the above disclosed wagering game method which comprises forming of a game set of N>1 non repeating information elements, propagation among the players of playing coupons carrying information about the contents of the game set information elements, entering of identification data onto the said coupons, marking of one of the game set information elements by every player as a wager selected, return of the coupons with the wager marks on them to effect wager drawing, registration of the returned coupons with marked wagers and wager drawings within playing rounds, wherein the coupons with the wager marks on them are registered as a sequence of coupons in the order of their return arrival, said sequence is kept hidden from the players until the playing round is completed, and the wager drawing is carried out by means of an iterative-analytical process of forming a quantitative wager distribution among the game set elements, said process is kept hidden from the players until the playing round is completed, and within every iteration of the said process a regular coupon of a registered coupon sequence is correlated with the game set information element selected as a wager by the player, the number of coupons correlated with each information element of the game set within the current playing round is determined, observation of conditions of a wager drawing end is checked, and the wager drawing is completed as soon as the said conditions are observed, and in the presence of registered coupons carrying wager marks which are not processed by the iterative-analytical

wager drawing process before the completion of the current playing round, these coupons are processed by the iterative analytical wager drawing process within one of the next rounds.

Particular cases of this embodiment of a wagering game method are respectively:

—A wagering game method called "Force of Zero", in which within every iteration of a wager drawing process, or starting with the N iteration, the game set elements are revealed with which no coupon has been correlated within the current playing round, and the wager drawing is completed with an iterative analytical processing of a coupon containing a wager mark corresponding to the only game set element with which no coupon has been correlated within the current playing round before the processing of this coupon;

—A wagering game method called "Force of Minimum", in which within every iteration of a wager drawing process, or starting with the (2N-1) iteration, the game set elements are revealed with which only one coupon has been correlated within the current playing round, and the wager drawing is completed in the presence of only one such element and in the absence in the game set of elements with which no coupon has been correlated within the current playing round;

—A wagering game method called "Force of Minimax", in which within every iteration of a wager drawing process, or starting with the 2N iteration, the game set elements are revealed with which the minimum and the maximum number of coupons have been correlated within the current playing round, and the wager drawing process is completed in the presence of only one element with which the minimum number of coupons has been correlated within the current playing round, of only one element with which the maximum number of coupons has been correlated within the current playing round, and in the absence in the game set of elements with which no coupon has been correlated within the current playing round.

The aforementioned particular cases of this embodiment of the wagering game method possess the same advantages as their corresponding particular cases of the embodiment described earlier.

A degree of influence of a player on the process and outcome of a particular game is increased in case where the both embodiments of the wagering game method are realized. In this case, on request of a player, he or she is provided with accumulated information about current quantitative wager distribution among the game set elements relating to an unfinished playing round, and the said information is presented to the player in exchange for a wager which is placed without his or her participation and processed by a wager drawing process out of turn.

The attractiveness of wagering games in their particular embodiments "Force of Minimum" and "Force of Minimax" is increased due to the fact that, on request of a player, before the completion of a playing round, signals or coupons containing a wager information which were received from the said player are withdrawn from a wager drawing process in the order opposite to that of their registration.

The present invention is also embodied in a wagering game apparatus intended for the implementation of the first of the above described embodiments of the claimed method. Referring to FIG. 1, the wagering game apparatus comprises a game set forming unit (1) connected via data dissemination unit (2) to one of inputs of a processor (3) connected with its information output to a recognition and identification unit (4), a wager payment unit (5), a wager registration unit (6), a controller (7), a playing-logic unit (8), and a recording unit (9) which are connected in series, a playing round counter (10) connected to the second input of the wager registration unit (6) and to the second output of the controller (7) connected with its second input to the output of the game set forming unit (1), a long-term memory unit (14) interconnected with the recognition and identification unit (4) and the wager payment unit (5), a timer (17) connected to the controller (7), the recognition and identification unit (4), the wager payment unit (5), and the recording unit (9). The apparatus also comprises a wager distribution processor (11) interconnected with the controller (7), a wager registration confirmation unit (12) connected to the input of the processor (3) and the second output of the wager registration unit (6), a payment registration unit (15) and an outcome review unit (16) which are interconnected with the long-term memory unit (14) and the processor (3) and also connected to corresponding outputs of the recognition and identification unit (4), the outputs of the recording unit (9) and the wager registration confirmation unit (12) being connected to corresponding inputs of the long-term memory unit (14).

To embody the wagering game method in its first embodiment which enables the players not to wager by themselves but to entrust the apparatus with this duty, the apparatus in accordance with the present invention additionally comprises a wager generator (13) interconnected with the recognition and identification unit (4) and also connected to the output of the game set forming unit (1).

To embody the wagering game method in its first embodiment which enables the players, on their request, to be provided with information about current quantitative wager distribution among the game set elements, the apparatus in accordance with the present invention additionally comprises a wager drawing display unit (18) coupled between an additional output of the controller (7) and an additional input of the processor (3).

To embody the wagering game method in its first embodiment which enables the players to withdraw their wagers from a wager drawing process in the games "Force of Minimum" and "Force of Minimax", the apparatus in accordance with the present invention additionally comprises a wager returning unit (19) interconnected with the controller (7) and the long-term memory unit (14) and also connected to an output of the recognition and identification unit (4) and an input of the input/output processor (3).

With reference to FIG. 2 showing the apparatus to carry out the wagering game method in its first embodiment called "Force of Zero", a wager distribution processor (11) comprises a decoder (20) connected with its outputs to driving inputs of flip-flops (21) which are connected with their outputs to inputs of a "logical AND" gate (22) connected with its output to reset inputs of the flip-flops (21).

A modification of the apparatus having such a wager distribution processor (11), while fully conforming to the game method "Force of Zero", is characterized in that it is simple to embody but fails to accumulate data about a precise quantitative wager distribution among the game set elements in the processor (11).

Additional possibilities to accumulate data about a precise quantitative wager distribution among the game set elements in the processor (11) of this particular case of implementation of the apparatus to carry out the wagering game method in its embodiment called "Force of Zero", and also to transfer, at any moment, this data to the controller (7) are solved in case where a wager distribution processor (11) interconnected with a controller (7) comprises a decoder (20) connected with its outputs to inputs of counters (23) whose outputs are connected, via comparison units (24), to inverse inputs of a "logical AND" gate (25) connected with its output to reset inputs of the counters (23) (see FIG. 3).

With reference to FIG. 4 showing the apparatus to carry out the wagering game method in its first embodiment called "Force of Minimum", a wager distribution processor (11) interconnected with a controller (7) comprises a decoder (20), each of N 1-bit outputs of the said decoder being coupled to a stage of a counter (23) and of a null-comparison unit (24) and a 1-comparison unit (27) which are connected in parallel to the said counter (23), a "logical AND" gate (25) with N inverse inputs each coupled to the output of the corresponding null-comparison unit (24), an "exclusive OR" gate (28) with N inputs each coupled to the output of the corresponding 1-comparison unit (27), a "logical AND" gate (29) with two inputs connected to outputs of the gates (25) and (28), and an encoder (30) with N inputs each coupled to the output of the corresponding 1-comparison unit (27), the said gate

(29) being connected with its output to reset inputs of the counters (23) and to a control input of the encoder (30).

With reference to FIG. 5 showing the apparatus to carry out the wagering game method in its first embodiment called "Force of Minimax", a wager distribution processor (11) interconnected with a controller (7) comprises a decoder (20), each of N 1-bit outputs of the said decoder being coupled to a stage of a counter (23) and of a null-comparison unit (24), a minimum-comparison unit (31), and a maximum-comparison unit (32) which are connected in parallel to the said counter (23), a "logical AND" gate (25) with N inverse inputs each coupled to the output of the corresponding null-comparison unit (24), a first "exclusive OR" gate (28-1) with N inputs each coupled to the output of the corresponding minimum-comparison unit (31), a first "logical AND" gate (29-1) with two inputs connected to outputs of the gates (25) and (28-1), a second "exclusive OR" gate (28-2) with N inputs each coupled to the output of the corresponding maximum-comparison unit (32), a second "logical AND" gate (29-2) with two inputs connected to outputs of the gates (29-1) and (28-2), a first encoder (30-1) with N inputs each coupled to the output of the corresponding minimum-comparison unit (31), a second encoder (30-2) with N inputs each coupled to the output of the corresponding maximum-comparison unit (32), a minimum-counter (33) coupled to the output of the gate (29-1), the said minimum-counter (33) being connected with its output to the input of each of minimum-comparison units (31), and a maximum-counter (34) coupled to the output of the gate (28-2), the said maximum-counter (34) being connected with its output to the input of each of maximum-comparison units (32), the said gate (29-2) being connected with its output to reset inputs of the counters (23), (33), (34), the said gate (29-1) being connected with its output to a control input of the first encoder (30-1), the said gate (28-2) being connected with its output to a control input of the second encoder (30-2).

The present invention consists of an apparatus and a method for enabling multiple users to engage in iterative-analytical wagers.

The invention provides a gaming method comprising the steps of: (i) defining a game set consisting of a plurality of information elements; (ii) establishing a series of wager selection rules defining the selection of a winning wager based on the plurality of information elements, the wager selection rules including preconditions for a wager drawing end based on a quantitative wager distribution among the information elements, rule of defining the winning wager (s) at the end of each round, (iii) receiving and registering wagers from a plurality of players (at any given time only one wager from one player), wherein the wagers correspond to the plurality of information elements, the wagers registered define

cumulatively a quantitative wager distribution; and (iv) iteratively processing and analyzing the successive quantitative wager distributions to establish whether the preconditions for the wager drawing end have been achieved, (v) terminating the game round in case the preconditions are achieved and (vi) starting the next game round at the time of registering the first wager after the previous round was terminated, (vii) wherein the wager receiving, registering and processing is hidden for the period of round duration.

Other aspects of the invention include modifications of the method described above, including to provide the "Force of Zero", "Force of Minimum", and "Force of Minimax" iterations of the method described below. These modifications are particularized in the description.

The present invention also includes a series of particular methods for implementing the gaming method described above in the context of particular hardware devices that enable wagers to be placed by the plurality of users, and the wagers to be registered and processed by the game administrator.

The present invention also includes a series of circuits that implement the methods described herein.

BRIEF DESCRIPTION OF THE DRAWINGS

Other and further objects and advantages of the present invention will be apparent as the description thereof progresses, reference being had to accompanying drawings wherein:

FIG. 1 is a function circuit of a wagering game apparatus.

FIG. 2 is a function and logic circuit of a wager drawing processor (11) for a particular embodiment of an apparatus realizing a modification of a "Force of Zero" method, without accumulation in the processor (11) of absolute quantitative data about wager distribution among the game set elements.

FIG. 3 is a function and logic circuit of a wager drawing processor (11) for a particular embodiment of an apparatus realizing a modification of a "Force of Zero" method, with accumulation in the processor (11) of absolute quantitative data about wager distribution among the game set elements.

FIG. 4 is a function and logic circuit of a wager drawing processor (11) for a particular embodiment of an apparatus realizing a modification of a "Force of Minimum" method.

FIG. 5 is a function and logic circuit of a wager drawing processor (11) for a particular embodiment of an apparatus realizing a modification of a "Force of Minimax" method.

FIG. 6 shows an example of the diagram of a quantitative wager distribution among the game set elements formed by an iterative-analytical process for a wager drawing within an unfinished playing round according to a modification of a "Force of Minimax" method.

FIG. 7 shows an example of the diagram of a quantitative wager distribution among the game set elements formed by an iterative-analytical process for a wager drawing within a completed playing round according to a modification of a "Force of Minimax" method.

BEST MODE OF CARRYING OUT THE INVENTION

The present invention consists of an apparatus and a method for enabling multiple users to engage in iterative-analytical wagers. The term "iterative-analytical" is a technical term of art well known to individuals familiar with probability calculations, and also individuals familiar with this aspect of computer programming. Iterative-analytical calculations are used where because of the existence of independent variables only an approximate formula exists for calculating the independent variables. The independent variables therefore are calculated iteratively, and these calculations are analyzed so as to define dependent variables. These dependent variables enable the calculation of the independent variables.

Aspects of iterative-analytical processing are applied to placement of wagers in order to provide the present invention.

The present invention is best understood as a gaming method, and specifically one comprising the steps of:

1.   defining a game set consisting of a plurality of information elements;

2.   establishing a series of wager selection rules defining the selection of a winning wager based on the plurality of information elements, the wager selection rules including preconditions for a wager drawing end based on a quantitative wager distribution among the information elements, and rules for defining the winning wager or wagers at the end of each wager round

3.   receiving and registering one or more wagers from one or more players, whereby the wagers correspond to the plurality of information elements, and the wagers registered define cumulatively a quantitative wager distribution;

4.   iteratively processing and analyzing the successive quantitative wager distributions to establish whether the preconditions for the wager drawing end have been achieved, and

5.   terminating the wager round where wager selection rules indicate a wager drawing end.

Where there are multiple wager rounds in a game, the method further comprises the step of starting the next wager round at the time of registering the first wager after the previous wager round was terminated.

In another aspect of the method of the invention, the wager receiving, registering and processing as described above is hidden during the applicable wager.

The information elements, as is obvious to anybody skilled in the art, can be provided as a series of graphic elements in a particular user interface, for example, blocks in a gaming screen. Each wager corresponds to a particular block. The quantitative wager distribution, in one illustrative example of the present invention, consists of a particular pattern of the blocks in the screen. The wager drawing end is achieved when the particular pattern meets the preconditions for wager drawing end. As described below, various user interfaces for enabling users to practice the gaming method of the present invention are contemplated.

Other aspects of the invention include modifications of the method described above, including to provide the "Force of Zero", "Force of Minimum", and "Force of Minimax" iterations of the method described below. These modifications are particularized in the description. These terms also refer to terms well known to those skilled in the art of lottery games. These terms have the following well-known meanings that are also provided for below:

"Force of Zero" is the name of a particular game, which ends when all areas of the gaming screen are occupied with the blocks, in a particular illustration of the present invention. In this game, the ending block wins the game. In a simpler description, the aim of this game is to occupy the last empty block left on the game board.

"Force of Minimum" is the name of a particular game, which ends when all areas of a gaming screen are occupied with the blocks AND, for example, there is only one cell (sub-division of the gaming screen) with a minimum number of bricks (for example, equal to 1) placed on it. The only brick placed on the "minimum" cell wins the game.

"Force of Minimax" is the name of a particular game, which ends when all cells are occupied with the bricks AND there is only one cell with a minimum number of bricks placed on it AND there is only one cell with a maximum number of bricks placed on it.

The present invention also includes a series of particular methods for implementing the gaming method described above in the context of particular hardware devices that enable wagers to be placed by the plurality of users, and the wagers to be registered and processed by the game administrator. These aspects of the present invention are particularized below. The present invention also includes a series of circuits that implement the methods described herein, as detailed below.

In the following description of an apparatus to carry out the first of the above-described embodiments of a wagering game method and modifications of an apparatus, when characterizing functional units, elements and a description of their operation, use is made of highly specialized terms and designations which are due to application tasks to be addressed by them. Structural elements and the description of operation of iterative-analytical processor units are set forth in more detail using terms of function and logic circuits accepted in digital electronics; in so doing, auxiliary, general-system and service tasks (conversion of data formats and commands, communications protocols, memory addressing, generation of system messages and commands, etc.) are only mentioned as needed to define more exactly functions of units when they address certain application tasks.

It should be understood that the invention is not limited to the scope of accepted terminology, and each term or designation used encompasses all equivalent elements and units operated in a similar way and used to perform the same functions.

A function circuit A representative circuit is illustrated in Fig. 1 of a wagering game apparatus set forth in FIG. 1 comprises a game set forming unit (1) (the said set consisting of N>1 game elements) which is connected, via a data dissemination unit (2), to an input/output processor (3). An The information output of the processor (3) is connected to a recognition and identification unit (4), a wager payment unit (5), a wager registration unit (6), a controller (7), a playing-logic unit (8), and a recording unit (9) which are connected in series. A playing-round counter (10) known device for counting game rounds (also referred to as "wager rounds" in this disclosure as each game round is actually a wager round) is connected to the second preferably to an input of the wager registration unit (6) and to the second an output of the controller (7) interconnected (here and throughout the text the term "interconnected" is to be understood as the availability of communication lines for data

exchange) with the game set forming unit (1). The second output of the wager registration unit (6) is connected, via a wager registration confirmation unit (12), to the processor (3).

An output of the game set forming unit (1) is also connected to a third input of the controller (7) and to a _further_ wager generator (13) interconnected with the recognition and identification unit (4). A long-term memory unit (14) is interconnected with the following units _elements_: the recognition and identification unit (4), the wager payment unit (5), a payment registration unit (15), an outcome review unit (16) which in turn is interconnected with the processor (3) and connected to the output of the recognition and identification unit (4), the latter being connected with its other output to an input of the payment registration unit (15) interconnected with the input/output processor (3). Outputs of the recording unit (9) and the wager registration confirmation unit (12) are connected to corresponding inputs of the long-term memory unit (14).

Synchronization of the apparatus operation is ensured by introduction of a timer (17) _(a known device)_ and its connection to units and elements requiring synchronization (not shown in FIG. 1). Moreover, an output of the timer (17) is connected to the controller (7), the recognition and identification unit (4), the wager payment unit (5), and the recording unit (9).

Provision of the players, on their request, with information about a current wager distribution among the game set elements is carried out by a wager drawing display unit (18) _preferably_ coupled between an additional output of the controller (7) and an additional input of the input/output processor (3).

Return to the players, on their request, of wagers from unfinished playing rounds is carried out by a wager returning unit (19) interconnected with the controller (7) and the long-term memory unit (14), and also coupled between the recognition and identification unit (4) and the input/output processor (3) (these two connections are shown in FIG. 1 with a dotted line).

The game starts with forming by the game organizer _defining_ a game set consisting of $N>1$ information elements by entering from a (console via a _known_ program interface to _a_ the electronic memory _device)_ of a _via the_ game set forming unit (1) of N non-repeating information codes, each corresponding to one of the game set elements. Information codes of the game set elements are transferred to a _the_ data dissemination unit (2) where they are converted into a message format about _that includes_ the game set contents and invitation to wager, and the said invitation enters a _is processed by the_ processor (3).

An _The_ input/output processor (3) converts received _the_ internal signals of the apparatus into signals to be transmitted through external communication lines, and transmits

these signals to registration-playing terminals (not shown in the Figure) of registered and potential players through external communication channels (not shown in the Figure) which may be computer interface lines, analog and digital telephone channels, communication links of local and global computer networks and on-line services, asynchronous communication links of cable TV networks, etc. Signals received from registration-playing terminals through external communication channels are converted by the input/output processor (3) into signals suitable by types and formats for dissemination and processing by functional units of the apparatus. Any type of computerized device may be used as a registration-playing terminal including a cell phone.

At the stage of forming defining a game set, the processor (3) converts a message about the game set contents received from the data dissemination unit (2) into data communication signals in accordance with known standards and protocols accepted in defined by the communication links and networks used by the registration-playing terminal, and then sends these signals through communication channels to registration-playing terminals at a preset repetition frequency and/or on their requests.

The game set forming unit (1) may be used in a form of implemented as a known computer terminal with a console and main memory, for example a personal computer; the data dissemination unit (2) may be made implemented as a dedicated main memory array of this the computer terminal under control of a special program; the input/output processor (3), depending upon types of applied interfaces, communication channels and networks, may be used in a form of implemented as serial and parallel computer ports, network interface boards, modems and modem pools, controllers and adapters of integrated-service digital telephone networks (ISDN), controllers of asynchronous cable TV networks, specialized telecommunication processors, Internet-protocol converters – jointly with relevant hardware-software drivers.

A The registration-playing terminal is used for registration of the players and, input of wager data and output of drawing outcomes. These functions may be performed by touch-tone telephone sets, electronic terminals of points of sales for sale of lottery coupons; terminals for servicing credit cards, bank's cards and also smart-cards, including automatic teller machines, discount card service terminals, video-terminals of asynchronous cable networks,; personal computers of users of corporate global computer networks; and an on-line services provided by a web server, accessed through a browser, etc. A particular case of a registration-playing terminal is a pulse-dial telephone set whose application in conjunction

with the presently disclosed apparatus will be set forth separately is particularized separately below.

Having received signals about game set contents and game regulations from the processor (3) to at the registration-playing terminal, an operator of the registration-playing terminal selects one of the following three modes of interaction with the apparatus proposed by the data dissemination unit (2): (i) payment registration mode, (ii) outcome review mode or (ii) wager placement mode, while sending A corresponding signal is sent through feedback channels to the processor (3). Signals received through feedback channels are transferred, following conversion of types and formats, in a manner that is known by the input/output processor (3) to the recognition and identification unit (4). which first of all The recognition and identification unit (4) adds an indication of a system timer (17) to adds a timing identifier to the format of this signal and recognizes one of the aforementioned three modes of the apparatus – registration-playing terminal interaction and adds same to the format also.

The payment registration mode providing generally provides, as a rule, a pre-registration routine whereby of personal data of players and their consent with confirmation of access codes to for this mode are defined. for the purposes of This is to safeguarding safeguard against unauthorized access, depending upon the type of registration-playing terminal used and the mode of wager payment, may be realized differently. Various other tools and methods for maintaining security may be used. In case where Where the registration-playing terminal is used in consists of a form of municipal or corporate network or a cable network video-terminal then, under preliminary agreement between the game authority and network authority, for example personal data of a subscriber may be transferred from the subscribers' database to the processor (3) for registration as a player;. in In so doing, the mode of wager and prize payment may be selected either the same as in the case of network service payment, or using credit cards, or in accordance with a discount-bonus system (see below). In case where Where the registration-playing terminal is used in a form consists of a terminal for servicing credit, bank's bank or smart cards, then all the player's player data necessary for registration of payments may be read-out directly from the card; in In the case of a smart card – including the sum of balance of virtual money in the a sum of virtual money may be deduced from the electronic circuit of the card, provided that the same card will be used as payment means during the game. If the game organizer is a discount system authority and the registration-playing terminal is used in a form of consists of a terminal for servicing discount cards, then registration of a player may be made on the basis

of <u>existing</u> registration data of a <u>for the</u> discount program participant, while effecting payments in accordance with a discount-bonus system. If the game organizer is a corporate computer network or on-line service authority, example the <u>an</u> Internet-network service provider, then registration of a player may be made on the basis of <u>existing</u> registration data of a <u>for the</u> corporate network or on-line service user, while effecting payments for participation in the game in accordance with a discount-bonus system and/or pre-agreed scheme of service payment. If the game organizer is an Internet-network server holder <u>operates a web server</u>, then the players fill in a registration form transferred from the processor (3) <u>web server</u> to their personal computers, while choosing as a payment means one of credit cards acceptable to the game organizer. Finally, if the registration-playing terminal is used in a form of <u>consists of</u> an electronic terminal of the point of sales <u>for sales</u> of lottery coupons, then the registration data is used as a unique alphanumeric code of a coupon which takes the place of personal data of a player <u>is used as a unique identifier for the player</u>, whereas payment for a wager is charged directly by an the operator of the registration-playing terminal, and a payment registration mode is combined with a wager distribution mode. A type of the registration-playing terminal used is determined by the processor (3) using one of the known methods in the course of connection installation. <u>Each of those representative implementations is provided in a manner that is known.</u>

In any case, after the recognition and identification unit (4) has recognized the payment registration mode, signals received through feedback channels from the registration-playing terminal, said signals containing address data of the players, personal codes of access to an account-register and payments data <u>(if applicable)</u>, are converted in the processor (3) from formats of <u>external</u> communication <u>signals</u> through external lines into an internal signal format used in the apparatus, and entered a <u>stored to the</u> long-term memory unit (14), via a <u>A</u> payment registration unit (15) which carries on a dialog with <u>establishes a communication session with</u> a particular registration-playing terminal via the processor (3) and a connection established through communication channels. In so doing, the payment registration unit (15) <u>preferably</u> assigns a database <u>identifier</u> personal address to every new player and, using this address <u>identifier</u>, introduces personal identification data of the player with an access code in the long-term memory unit (14) and opens a personal playing account-register of <u>for</u> the player. In the course of a primary registration of the player, the balance of his or her account-register is supplemented with an initial amount of monetary units used to measure the cost of wagers in case of conducting games with wagers of different price (for example, the game

organizer may change a wager price depending upon the power of the game set N) and possibly with non-monetary forms of payment.

One of pPossible non-monetary forms of payment for the participation in the game includes is a discount-bonus system widely used in discount programs, where for each purchase of a good product or service a personal account of the program participant is supplemented credited with a certain amount of bonus points to be determined by based on the money price of the purchase;. sSubsequently, said points may be exchanged redeemed for new goods additional products and/or services or used to receive certain discounts. It is naturally to use a discount-bonus scheme in those games organized by a discount program authority (see Example 7, below), however a similar scheme Similar implementations may be applied in cases of mass distribution of the games described with wagers being placed via by authorities of telephone networks, and asynchronous TV networks, corporate networks and on-line services. In all these and similar cases, payment of wagers and prizes may be measured by certain quanta of services to be provided (see Examples 2, 4, 6, below).

From here on, the player may change the amount of a personal playing balance repeatedly, while choosing again the payment registration mode and interacting with his or her playing account-register from the registration-playing terminal through communication channels network, the input/output processor (3) and the payment registration unit (15) in order to enter new payment units to the playing account-register or withdraw them such units from the account-register, for use beyond example for application of such unit outside the game. As a matter of fact, the structure of the player identification data of the player, and payment mode and payment equivalent are determined by the game organizer and fixed in the registration of the player; subsequently, this data may be defined more accurately as needed in the payment registration mode described above.

In the an outcome review mode of the, an outcome review unit (16) via the processor (3) and communication networks channels carries on a dialog with registered and potential players, while providing them with information about an outcome of completed playing rounds from the long-term memory unit (14).

If the The player may select a chooses the wager placement mode of the present invention., in In response, to the aforementioned message of the data dissemination unit (2) containing provides an invitation to wager,; the player inputs his or her identification data in the proposed form of a virtual playing coupon,; the player indicates in this form a wager placed by him or her in which is reflected by the form as a form of an information code of a corresponding game set element; and the player sends this form as a communication signal of

certain type and format through known communication feedback channels provided for this purpose to the input/output processor (3). A The signal is received and converted by the processor (3) which signal is recognized by the recognition and identification unit (4) as a signal containing a players' player's data and wager information code,. thereupon Thereupon the recognition and identification unit (4) identifies the player when interacting with the long-term memory unit (14) while finding there his or her database address identifier and checking the state of a personal account-register.

An important A feature of identification in accordance associated with the specific nature of the game method of the present invention is the fact that in case of failure to identify the player, the recognition and identification unit (4) transfers a received signal to the long-term memory unit (14) thereby freeing itself for the identification of the next signal, and the unit (14) (4) is preset via the payment registration unit (15) and the processor (3) through the communication session channels of dialog with the registration-playing terminal so as to obtain a more precise definition of identification data of for the player and/or entering of additional payments to his or her personal account-register.

In order that the players could realize a possibility not to wager by themselves but to entrust might the apparatus with this duty to wager for them, the player with the help of the registration-playing terminal inputs, in a wager field of the signal sent provided by the apparatus of the present invention in the wager placement mode, a special wager inquiry code is provided which, following a successful signal identification, is interpreted by the recognition and identification unit (4) as a wager placement code without participation of the player;. asAs a result, the recognition and identification unit (4) sends an inquiry for a wager to a wager generation unit (13) and, after having received from the wager generation unit (13) a wager in a the form of an information code of a corresponding game set element, substitutes with this The information code for a special wager inquiry code in the identified signal. The wager generation unit (13) may be realized is provided in a manner that is known based on the basis of one of the methods of pseudo-random-integer generation known in the computer science.

In case of a successful completion of identification, a signal with a wager is transferred from the recognition and identification unit (4) to a the wager payment unit (5) which, while interacting with a personal player account-register of an identified player in the long-term memory unit (14), generates for the player account-register a message about one the debit corresponding with the wager price's write-off, while sending this message to the long-term memory unit (14) to correct a the balance of the identified player account-register.

Prior to the balance correction, the long-term memory unit (14) may inquire, (via the payment registration unit (15), the input/output processor (3), communication channels network and the registration-playing terminal), from the player about an for the access code to his or her player account-register if such inquiry is provided permitted by the game regulations and/or necessity of such inquiry is indicated authorized by the player in his or her personal registration data during registration as a player. If such inquiry about a code to access an player account-register is needed, a signal containing a wager is also transferred from the wager payment unit (5) to the long-term memory unit (14) in order to free the wager payment unit (5) for subsequent signals with wagers, as it is provided for in operation of the recognition and identification unit (4) in each case of unsuccessful identification. In case of unsuccessful confirmation of an access code, the payment registration unit (15) carries on a dialog establishes a communication session with a registration-playing terminal via the processor (3) to define more accurately an access code. Following confirmation of the access code, a signal containing a wager comes back to the wager payment unit (5) where its format is supplemented with data from the system timer (17) about the current time of paying for a wager by means of a time tag, applied in a manner that is known.

If the player uses as a registration-playing terminal an known electronic cash terminal for purchasing of the point of sales of lottery coupons, a signal entering the input/output processor (3) contains a unique alphanumeric code of identification of a lottery coupon identifier and a wager value in a form of information code of a corresponding game set element or a special code of inquiry for a wager generation on behalf of the player. When processing such a signal code, the recognition and identification unit (4) jointly with the long-term memory unit (14) creates for this signal code a database address identifier of the received signal, said address identifier being unambiguously associated with an identification code of the lottery coupon paid by the player. Based on this address, the long-term memory unit (14) forms an a player account-register of for the paid coupon and sends the received signal to the wager payment unit (5) in which this signal acquires the value of system time.

As a result, in all cases a signal at the output of the wager payment unit (5) contains three completed data fields: an account-register a player account database address identifier, a wager value in a form of the information code of a game set element, and a system time tag of a the signal output from the wager payment unit (5).

The recognition and identification unit (4), the wager payment unit (5), the payment registration unit (15) and the outcome review unit (16) may be realized as specialized

imperative software modules located in are generally implemented as software utilities stored to the computer memory.

The long-term memory unit (14) is a database control system and, properly speaking, a database which are is implemented with the use of using, for example, high-performance disk drives of required capacity.

An The output of the wager payment unit (5) enters a wager registration unit (6) where its format is supplemented with two data fields: a current round number field and a current round wager number field. To fill in these fields, the wager registration unit (6) uses readings of a playing-round counter (10) and readings of its internal counter of based on a number of wagers in the round which zeros every time with the change in readings of the playing-round counter (10). A full copy of a the signal so registered supplemented is transferred to a wager registration confirmation unit (12) which forms from this copy a message about a wager registration and transfers this message to the long-term memory unit (14) to input registration data of a wager in an account-register using a database address indicated in the copy, and also transfers this message via the input/output processor (3) and communication channels network to the registration-playing terminal from which a the registered wager was placed. Thereupon, a registered signal is truncated by format up to a signal containing only a database identifier address and a wager information code and transferred to the controller (7).

In this way, a message transferred by the wager registration confirmation unit (12) to the long-term memory unit (14) and the processor (3) followed by its transfer to the registration-playing terminal contains 5 filled in data fields: a database address or identifier, a wager value, a system time value lag, a serial number of the current playing round and a serial number of a wager in the current playing round, wherein a signal having a greater value of system time has a greater value of a combined index "round number – wager number".

The controller (7) serves to loads wagers contained in information code signals to a wager distribution processor (11), take decisions about determines the start and end of playing rounds, and transfer data about quantitative distribution of wagers in the completed round to a playing-logic unit (8). In so doing, the controller (7) interacts with the wager distribution processor (11) which realizes an iterative-analytical process of forming a quantitative wager distribution among the game set elements.

In case of an iterative-analytical game with a postponed outcome, like "Force of Minimum" or "Force of Minimax", the controller (7), before the completion of a playing round, fills in sequence a variable-length temporary buffer storage formed in its internal

memory with signals coming from the wager registration unit (6), which may be realized in practice by means of the main memory dynamic allocation (see, for example, John Wakerley. Microcomputer Architecture and Programming. John Wiley & Sons, 1981). Upon completion of the current round, the controller (7), before the start of the next round, unloads in sequence this buffer storage to the playing-logic unit (8) while extending a format of signals unloaded from the buffer storage with data about a serial number of the completed round and a registered serial number of a wager in this round to be determined by a serial number of the signal in the buffer storage.

Upon arrival of a regular information code of the wager from the controller (7), the wager distribution processor (11) carries out iteration of the code processing and updates an accumulated wager distribution while correlating this code with an information code of a corresponding game set element formed by the game set forming unit (1) and the controller (7) loaded in the game initialization into the wager distribution processor (11), hereby determining the number of wagers correlated with a given game set element in the current playing round, and checks by an updated quantitative wager distribution a round completion condition, while generating, at the iteration end, to the controller (7) a flag of the playing round completion in a form of 1-bit signal-flag F=0 (round not completed) or F=1 (round completed). With F=0, the controller loads the next signal in the buffer storage, whereas an information wager code contained in the signal – to the wager distribution processor (11). When the signal F=1 comes, the controller (7) unloads from the wager distribution processor (11) data about quantitative wager distribution and about revealed special points of this distribution (last zero, absolute minimum, absolute maximum, etc.) in the round completed and transfers the results thereof to the playing-logic unit (8) along with readings of the system timer about the round completion time, simultaneously transferring to the playing-round counter (10) a command to increase the round number by 1.

The same operations of the playing round completion are effected by the controller (7) in case of a method of iterative-analytical game with instantaneous outcome, like "Force of Zero". In this case, however, a signal bugger storage in the memory of the controller (7) may not be created, since a signal-flag F indicative of the playing round completion which is generated by the wager distribution processor (11) to the controller (7) is at the same time a winning flag in respect of the last wager processed (F=1 – wager won, F=0 – wager lost). For this reason, with respect to the a particular embodiment of a method of iterative-analytical game with instantaneous outcome in accordance with the present invention, a wager registration confirmation unit (12) provides for a delay in the generation of its signal before

the completion of processing by the wager distribution processor (11) of a wager which corresponds to this signal, and supplements this signal with the flag F (see, a dotted linkage between units (7) and (12) in FIG. 1) in order to ensure "instantaneousness" of the game. As a result, in case of the iterative-analytical game with instantaneous outcome, the wager registration confirmation unit (12) produces a signal about winnings or loss of a wager placed and transfers this signal to the long-term memory unit (14) and the input/output processor (3) to be passed to a player who has placed this wager. At the same time, to conserve the common character of statement of the invention, one may consider that in the apparatus for games with instantaneous outcome a variable-length signal buffer storage is formed in the controller (7).

The playing-logic unit (8) having received from the controller (7) quantitative data about a final distribution of wagers in the completed playing round along with data about special points, in accordance with the accepted game regulations determines an element (elements) of the game set which has (have) won in the completed playing round, calculates a budget and prize fund of the completed playing round and a quantitative allocation of the prize fund among prize-winning wagers. Then the unit (8) allows successive passage of signals unloaded from the buffer storage of the controller (7) to the recording unit (9), while comparing information codes of wagers with codes of winning elements of the game set and assigning relevant winning statuses to signals unloaded from the buffer storage of the controller (7), provided that the codes coincide.

From the received signals with winning statuses, the recording unit (9) creates a consolidated protocol- or register of the completed round which contains both general data of the playing round (time of the start, time of the end, the number of wagers, numbers of elements won, the amount of a prize fund and its allocation by elements won, database addresses of wagers won and amounts of their winnings) and detailed data with respect to each wager (a database address, a wager value, a serial number in the round, a winning flag, the amount of the winnings). The recording unit (9) may also be realized on the basis of a variable-length buffer storage which under dynamic buffering conditions may use for its add-in memory resources released by the buffer storage of the controller (7) in the course of its unloading.

A consolidated protocol-register of the completed round is transferred to the long-term memory unit (14) for subsequent storage and presentation via the outcome review unit (16) and the processor (3) through communication channels to those who so desire. Upon arrival of this consolidated protocol-register, the long-term memory unit (14), in accordance

with this protocol register's, corrects the player accounts-registers of the players for players whose wagers were subject to a drawing in the completed round, wherein the difference between accounts-registers of natural persons and playing coupons whose wagers were introduced from registration-cash terminals, is of no importance whether the wager originated from playing coupons or wagers from players placing bets makes no difference to the outcome.

Thus completes the processing of results of the completed playing round, and a new round begins with the arrival of the first signal containing a new round number from the wager registration unit (6) to the controller (7); and just this moment is fixed by the controller (7) according to the system timer (1) as a time period for a new round beginning.

An embodiment of the structure and operation of the apparatus set forth above is called everywhere below as a "basic apparatus".

In the aforementioned particular case of using a pulse-dial telephone set as a registration-playing terminal, the processor (3) is a mini-automatic telephone exchange designed for, as a minimum, N telephone numbers with an automatic speaker's telephone number determinant and a voice generator under a preset program. In this case, N telephone numbers of the processor (3) are used to receive signals about wagers placed. When answering a subscriber's call by one of these N numbers, the processor (3) generates a signal containing a speaker's telephone number as identification data and an information code of a game set element which corresponds to a dialed telephone number of the input/output processor (3).

A quantity of numbers in a telephone exchange for a game among N-power players set may be increased at the expense of numbers to be used for rendering additional services to the players. For example, (N+1) telephone number of the processor (3) may be used for receiving inquiries to generate a wager from the players, (N+2) telephone number of the processor (3) may be used for purchasing a credit to be entitled to wager, (N+3) telephone number of the processor (3) may be used for informing about results of the players in completed round for a certain period of time, (N+4) telephone number of the processor (3) may be used for returning wagers from unfinished playing rounds, etc. So, when answering a subscriber's call by the telephone number of an additional service, the processor (3) generates a signal containing a speaker's telephone number and a special code of this service.

An output of the processor (3) containing a speaker's telephone number as identification data and an information code of a game set element or an additional service code which corresponds to a dialed telephone number of the input/output processor (3), is

recognized and identified in the recognition and identification unit (4). In the course of signal identification, a speaker's telephone number is associated with a database address in the long-term memory unit (14) under which a personal player account-register is stored, (if any), or a speaker receives a voice message that he or her she or he is required to dial a (N+2) telephone number in order to open an account-register and purchase a minimum credit for the right to wager. After the signal containing a wager value has been identified, this signal is processed according to the above-described scheme method, wherein data generated by the wager registration confirmation unit (12) and transferred to the processor (3) are converted by the voice generator and distributed to a speaker in response to his or her call, and upon identification of a wager placement code without participation of a player the wager is placed by a wager generator (13). Upon identification of a special playing credit purchase code, the payment registration unit (15) corrects accordingly a the speaker's player account-register balance (debit or credit) in the long-term memory unit (14) and produces to the processor (3) data about the corrected account balance which, after conversion by the voice generator in the processor (3), is distributed to the subscriber in a voice form in response to his or her call. Upon identification of a special code of a playing round outcome review, the outcome review unit (16) analyzes a speaker's account-register and produces to the processor (3) data about the outcome of a subscriber's wager drawing for a certain period of time which, after conversion by the voice generator in the processor (3), is distributed to the subscriber in a voice form in response to his or her call, etc. Essentially, payments for the participation in the game using the described modification of the apparatus are effected according to one of the known procedures for paying telephone services.

To implement a particular case embodiment of a wagering game method in accordance with the present invention which provides the players, on their request, with information about a current wager distribution among the game set elements, the basic apparatus is supplemented with a wager drawing display unit (18) coupled between an additional output of the controller (7) and an additional input of the processor (3). To obtain information about a current quantitative wager distribution among the game set elements, that is about a current wager drawing state, the player sends from his or her terminal to the processor (3) a signal carrying, along with identification data of the player, a data inquiry flag about the current drawing state. When the recognition and identification unit (4) detects in the signal received from the processor (3) an identified player's inquiry flag to information about the current drawing state, the recognition and identification unit (4) inquires on requests the wager generator (13) for a wager and supplements the signal received from the processor (3)

with its value, thereupon transfers the signal so converted to the wager payment unit (5) in order to draw on an account of the identified player in the amount of one wager. Thereupon, a signal containing information about a wager placed without participation of the player is processed by other functional units; in the course of processing the signal with an inquiry flag to present information the controller (7) produces to the wager drawing display unit (18) data about quantitative wager distribution among game set elements and data about revealed special points of this distribution which are converted by the wager drawing display unit (18) into a message format about a wager drawing current state and transfers this message to the processor (3) for communication to the player who has sent the inquiry.

Return of wagers may be only conducted in the games with a postponed outcome of the drawing process from unfinished playing rounds.

To implement another particular case embodiment of a wagering game method in accordance with the present invention which enables the players to withdraw their wagers from a wager drawing process in games with a postponed outcome of the drawing, the basic apparatus is supplemented with a wager returning unit (19) coupled between the recognition and identification unit (4) and the input/output processor (3) and additionally interconnected with the controller (7) and the long-term memory unit (14) (these two connections are shown in FIG. 1 with a dotted line). To return registered wagers from an unfinished playing round, the player sends from his or her registration-playing terminal to the processor (3) a signal carrying, along with identification data of the player, a request flag for wager return. In the recognition and identification unit (4), such a signal is identified and recognized as a signal of identified player for returning his or her wagers and transferred to the wager returning unit (19) which first of all checks, with the help of the long-term memory unit (14), the availability in an a player account-register of this the player of data about registered wagers in the current playing round. With a negative If the result of the check is negative, the result of the wager return signal is ignored, whereas with a positive check result the wager returning unit (19) initiates data exchange with the controller (7) providing provides to the latter with a database address of identifier for the player who requested for the wager return. This address is transferred by the controller (7) via a playing-logic unit (8) to a recording unit (9) for entering entry in the protocol of the current playing round. The controller (7) interrupts reception of signals with wagers from the wager registration unit (6) and changes over to interaction with a wager returning unit (19). The wager returning unit (19) receives from the long-term memory unit (14) and transfers to the controller (7) information codes of wagers placed by a given player in the current round. Codes Information codes of these wagers are

transferred to the controller (7) in succession opposite to that of the registration numbers of these for registered wagers in the current playing round, and each wager information code for wagers is supplemented associated with a special return flag. Having received an information code of for the regular wager requested for return, the controller (7) transfers this code for processing by a the wager distribution processor (11). The wager distribution processor (11) processes a wager code received from the controller (7) in the usual fashion, except for that during correlation a wager code with the code of a corresponding game set element, a number of correlated wagers accumulated in the processor (11) is not increased by 1, but rather decreases by 1. As a result of processing the regular wager with a return flag, the wager distribution processor (11) produces, as usual, a signal-flag F indicative of the completion of wager drawing in the current round, said signal being translated by the controller (7) to the wager returning unit (19).

Having received from the processor (11) a signal F=0, after processing of the regular wager code with a return flag, the controller (7) transfers this wager code via the playing-logic unit (8) to the recording unit (9) in order to enter in the current round protocol a mark indicative of the return of this wager to a player whose database address was entered in the protocol earlier. Concurrently, the flag F=0 for the wager returning unit (19) is a confirmation of the regular wager return with a return flag and indication of the transfer to the controller (7) of the regular wager with a return flag. An A player account-register of the player located in the long-term memory unit (14) is added with a wager return mark along with a correction of an the player account-register balance. Having received from the wager distribution processor (11) a signal F=1, after processing of the regular wager code with a return flag, the controller (7) carries the current playing round to completion in the usual fashion, while unloading the buffer storage via the playing-logic unit (8) to the recording unit (9); wagers returned are disregarded in the calculation of a completed round budget and a prize fund allocation. Concurrently, signal F=1 completes interaction of the controller (7) with the wager returning unit (19), so that not a single wager from the completed round comes back. On completion of a wager return session, the unit (19) via the processor (3) produces for a player who requested a wager return, a message about which wagers registered in his or her name have been withdrawn from the drawing.

To implement a "Force of Zero" wagering game method in accordance with the present invention, the controller (7) interacts with the wager distribution processor (11) which is assembled in accordance with a function and logic circuit represented in FIG. 2.

The controller (7) sends to the processor (11) a wager information code as a set of binary number bits which enters an input of a decoder (20) containing N 1-bit outputs. An input binary number corresponds to i-number of a game set element on which a wager is placed, so that the decoder (20) sets out at its i-output on-bit leaving all remaining outputs zero. Each output of the decoder (20) is a driving input of a flip-flops (21), therefore on-bit at the i-output of the decoder sets Q output of the flip-flop (21-i) in the state Q=1. Outputs of all N flip-flops (21) are supplied to an N-input "logical AND" gate (22) at the F output of which on-bit emerges, if, and only if the processor (11) processes a wager placed on the last "unoccupied" game set element. An output of the gate (22) is supplied to reset inputs of all flip-flops (21) and also as an output of the processor (11) – to the controller (7). Thus, signal F=0 does not change the states of flip-flops (21) and serves for the controller (7) as evidence of "failure to win" of a wager processed, so that the controller (7) must proceed with the current playing round, whereas signal F=1 re-sets all flip-flops (21) to 0, thus preparing the controller (7) for wager processing in the next round, and gives instructions to the controller (7) about the current round completion.

Referring to FIG. 2, for each game set element the only fact retained in the memory is the availability in the playing round of at least one wager placed on this element, which is essentially enough for the implementation of a "Force of Zero" wagering game.

At the same time, if, depending upon the rules of a prize fund allocation to be used, the playing-logic unit (8) and the recording unit (9) need data about a precise quantitative wager distribution among the game set elements, then in order to ensure this, the wager distribution processor (11) may be assembled provided in accordance with a the particular function and logic circuit represented in FIG. 3. Here, instead of a set of flip-flops, use is made of N binary counters (23-1), ..., (23-N) with null-comparison units (24-1), ..., (24-N), wherein each 1-bit output of the decoder (20) is an input of the binary counter (23) which accumulates a number of wagers placed in the current round on a corresponding game set element. A reading of each counter (23) is supplied to an input of the null-comparison unit (24), so that if the input coincides with 0, an output of the null-comparison unit (24) is set to 1, if it does not coincide – to 0. Outputs of the comparison units (24) are supplied to a "logical AND" gate (25) with N inverse inputs, whose output F is the output of the processor (11) to the controller (7). In so doing, F=1 if, and only if the processor (11) processes a code of the wager placed on the last "unoccupied" game set element. Besides, signal F is supplied to reset inputs of the counters (23) for their re-set to an initial zero state. Thus, in case of F=0, the states of the counters (23) remain unchanged, and the controller must proceed with the

current playing round. Signal F=1 re-sets all counters (23) to 0, thus preparing the processor (11) for wager processing in the next round, and serves to the controller (7) as an indication about the current round completion. To satisfy needs for full information about a current quantitative wager distribution among the game set elements, data contained in the counters (23) is transferred to the controller (7) over a data bus (26) under control of the controller (7).

A wager distribution processor (11) in accordance with an apparatus realizing a "Force of Minimum" game method may be assembled provided according to a the circuit depicted in FIG. 4 which is a modification of the circuit development of FIG. 3. Here, a binary counter (23) also corresponds to each game set element, and readings of the counter are additionally compared with 1 in a comparison unit (27). When an input binary number coincides with 1, the bit of a comparison unit (27) sets to 1, when it does not coincide – to 0. Outputs of comparison units (27) are supplied to a N-input "exclusive OR" gate (28), whose output F1 takes a value of 1 when, and only when exactly one input equals 1. Besides, outputs of all comparison units (27) are supplied to N inputs of an encoder-address former (30). Signals of null-comparison units (24) are processed, like in the scheme depicted in FIG. 3, by a "logical AND" gate (25) with N inverse inputs whose output F0 gives warning of the absence of zeroes in the wager distribution (when F0=1) or of their presence (when F0=0). To reveal the availability of the first nonzero global minimum in the current wager distribution, signals F0 and F1 are supplied to a two-input "logical AND" gate (29) whose output F takes a value of F=0 if, and only if there is no nonzero global minimum, and a value of F=1 in case of its availability. Signal F is supplied to a control input of the encoder (30), so that when F moves from the level F=0 to the level F=1, the encoder (30) yields a binary number which corresponds to the number of the only nonzero input; with a reverse move, all output bits of the encoder (30) set to 0. Moreover, signal F=1 re-sets the counters (23) to an initial zero state, thus preparing the processor for wager processing in the next round. Thus, emergence of signal F=1 at the output of the wager distribution processor (11) is a flag for the controller (7) about the current round completion, wherein the encoder (30) output contains a binary number of the only game set element on which a minimum number of wagers has been placed, whereas signal F=0 is a flag for the controller (7) about the current round continuation. As in the scheme depicted in FIG. 3, the controller (7) is able to read data about the current wager distribution out of the data bus (26).

The function of a wager withdrawal from the current round of a "Force of Minimum" game may be taken into account when using modified decoder (20) and counters (23), by supplying a wager return code R as an additional control signal from the controller (7), so

that with $R=0$, the scheme operates as described above, whereas with $R=1$, the decoder (20) actuates to the corresponding counter (23) a signal not to increase, but to decrease an accumulated sum by 1.

A wager distribution processor (11) in accordance with an apparatus realizing a "Force of Minimax" game method may be assembled according to a circuit depicted in FIG. 5 which is a further development of FIG. 4. Here, as in FIG. 4, an "element" counter (23) also corresponds to each game set element, however an output of every such counter is processed by three comparison units: (24), (31), and (32). The unit (24) carried out comparison with 0, the unit (31) – comparison with an output of a minimum-counter (33), the unit (32) - comparison with an output of a maximum-counter (34). Initialization of all counters is carried out by the processor's output $F=1$ upon completion of the regular round; in so doing, all N "element" counters (23) are set to 0, a starting sum of the minimum-counter (33) is set equal to 1, that of the maximum-counter (34) is set equal to 3. Thus, in the beginning of each round the minimum-comparison unit (31) compares readings of "element" counters (23) with number 1 (a value of the first nonzero global minimum), the maximum-comparison unit (32) - with number 3 (a value of the first global maximum given a nonzero global minimum). Outputs of a null-comparison unit (24), as before, are processed by a "logical AND" gate (25) with N inverse inputs, whose output takes a value of $F0=1$ if there are no zeros in the wager distribution, and a value $F0=0$ if they are present. Outputs of the minimum-comparison unit (31) are supplied to corresponding inputs of a first encoder (30-1) and, besides, are processed by a first N-input "exclusive OR" gate (28-1). Outputs of the maximum-comparison unit (32) are supplied to corresponding inputs of a second encoder (30-2) and, besides, are processed by a second N-input "exclusive OR" gate (28-2). As a result, the output $F1$ of the first gate (28-1) takes a value of 1 if, and only if exactly one coincidence has been fixed in the minimum-comparison units (31), and the output $F2$ of the second gate (28-2) takes a value of 1 if, and only if exactly one coincidence has been fixed in the maximum-comparison units (32). Signals $F0$ and $F1$ are supplied to a first two-input "logical AND" gate (29-1) whose output $F3$ takes a value of $F3=1$ if there is the only nonzero minimum in the wager distribution, and a value $F3=0$ if it is absent. Signals $F3$ and $F2$ are supplied to inputs of a minimum-counter (33) and a maximum-counter (34) respectively, which actuate when the input moves from high bit to zero bit, supplementing an accumulated sum with 1 and thus fixing successive levels for global minimum (an output of the counter (33)) and global maximum (an output of the counter (34)). Besides, signal $F3$ enters a control input of the first encoder (30-1), signal $F2$ enters a control input of the second encoder (30-2), with a binary

number emerging at their output buses when a control signal moves from zero bit to high bit, the said number corresponding to the number of the only nonzero bit at the data input; with a reverse move of the control signal all bits at the output buses of encoders (30) set to 0. Thus, a nonzero binary number at the output of the first encoder (30-1) corresponds to the number of a game set element which is a wager distribution global minimum, whereas a nonzero binary number at the output of the second encoder (30-2) corresponds to the number of a game set element which is a wager distribution global maximum. Finally, signals F3 and F2 are analyzed by a second two-input "logical AND" gate (29-2) whose output F takes a value of F=1 when, and only when exactly one nonzero minimum and exactly one maximum are available in the wager distribution.

As a result, the wager distribution processor (11) transfers to the controller (7) as its output data a binary number at the output bus of the first encoder (30-1), a binary number at the output bus of the second encoder (30-2), a binary number at the output bus of the counter (34) and a signal-flag F. A value of the flag F=1 is an indication to the controller (7) about the current round completion; in so doing, the output of the first encoder (30-1) contains a binary number which is a defined wager distribution global minimum value, the output of the second encoder (30-2) contains a binary number which is a wager distribution global maximum value, the output of the counter (33) contains the number of wagers placed on a global minimum, the output of the counter (34) - the number of wagers placed on a global maximum. A value of the flag F=0 is an indication to the controller about the current round continuation; in so doing, a binary number at the output bus of the counter (33) corresponds to a global minimum value to be checked, a binary number at the output bus of the counter (34) corresponds to a global maximum value to be checked, a nonzero binary number at the output bus of the first encoder (30-1) corresponds to the number of an element – a wager distribution global minimum found in the current wager distribution, a zero binary number at the output bus of the first encoder (30-1) means the absence of global minimum in the current wager distribution, a nonzero binary number at the output bus of the second encoder (30-2) corresponds to the number of an element – a wager distribution global maximum found in the current wager distribution, a zero binary number at the output bus of the second encoder (30-2) means the absence of global minimum in the current wager distribution. Moreover, as before, the controller (7) is able to read data about the current wager distribution out of the processor (11), via the data bus (26).

The function of a wager withdrawal from the current round of a "Force of Minimax" game may be taken into account when using modified decoder (20), "element" counters (23)

and also counters (33) and (34), by supplying a wager return code R as an additional control signal from the controller (7). In this case, with R=0 (wager placed), the scheme operates as described above, whereas with R=1 (wager withdrawn), the decoder (20) actuates to the corresponding counter (23) an indication not to increase, but to decrease an accumulated sum by 1, and sets the signal R=1 to additional control inputs of the counters (33) and (34) (these inputs are not shown in FIG. 3), so that when inputs of these counters move from 1 to 0, sums accumulated by the counters will not increase, but decrease by 1.

Modifications of the wager distribution processor (11) as described above may be implemented differently: in a form of custom and semi-custom integrated circuits, specialized computer cards made of conventional components, on the basis of specially dedicated main memory arrays of the personal computer under control of an application program, etc.

Industrial applicability

The following examples deal with some particular cases of using this embodiment of a wagering game method, which do not in any way embrace the whole range of possible applications. Games realized in accordance with the claimed method are called, for short, iterative-analytical games, thus reflecting the principle of a wager drawing process constituting the basis of these games.

Example 1. Games In the Slot Machine Centers

Iterative-analytical games may be conducted using playing terminals in casinos and specialized slot machine centers. Traditionally, slot machines embody various "face-to-face" games, with a random outcome formed by the machine irrespective of actions taken by the player ("777", "Dr. Black Jack", etc.), which may be treated by potential players as a drawback preventing them from participation in the game. When using the claimed method, a slot machine offers the services of a registration-playing terminal with respect to the apparatus described above.

Some apparatuses embodying different iterative- analytical games ("Force of Zero", "Force of Minimum", "Force of Minimax") among game sets of different power N and some slot machines and electronic cash terminals of the players' registration and wager payment may be integrated through a local computer network under control of a computer playing server into a playing system offering the players ample scope of choice in a manner that is known. Moreover, in such a system games identical by an iterative-analytical process and power N of a game set may differ by a price of wagers to be placed. In so doing, a playing

server in respect of each apparatus will act as the input/output processor (3), whereas a server database – as will provide the long-term memory unit (14) (see as shown in FIG.1).

Before entering into the game, the player notifies the operator of the cash terminal of required personal data for registration, pays a necessary sum of the playing credit and receives from the playing terminal a registration card with a machine-readable data medium containing an individual code which is unique for each card. Concurrently, a central database of the playing system creates a personal data file of the player and his or her consolidated (for all games) personal player account-register whose number (a database address identifier – see above) corresponds in a one-to-one manner to an individual code of the registration card to be handed out and whose balance is supplemented with a paid sum of the playing credit. In the course of registering the personal data, the players may assign a personal identification number (PIN-code) in order to further protect their personal files and playing accounts against unauthorized access.

The slot machine reads out an individual code of the card to verify a personal playing balance in the database; a card holder is advised to input a personal PIN-code in order to open access to use a personal account-register of the authorized player. Following successful completion of these operations, the player from a menu proposed chooses a game type, a game set kind, one wager price, places wagers and/or forms requests to provide him or her with information about the current state of wager drawing which are sent by a computer server for processing in a corresponding apparatus embodying a game type chosen.

For convenience, slot machines may be equipped with printers to notify the players of wagers placed by them, whereas a local network may additionally comprise reference-information terminals through which everybody who wishes so may obtain information about completed playing rounds. Any player having produced his or her registration card may receive, through cash terminal operators, a money equivalent of the cost of a playing credit balance from his or her consolidated account-register or pay an additional sum of the playing credit which will be entered to his or her account. Moreover, using cash terminal operators, a player who is not able to wait for the completion of rounds with a postponed wager drawing outcome, may file a request for the return of his or her wagers from unfinished playing rounds. Upon receipt of such a request, a playing server blocks a further acceptance of wagers and requests associated with an individual card code of this player and dispatches the request for the return of wagers among apparatuses in accordance with the present invention which enter the game system, with the inclusion of the cost of wagers returned in the player's

personal account; thereupon, the player is given a money equivalent of a total balance of the playing credit in his or her account.

In its minimum configuration, a local area network of a "slot machine centers" may contain only 1-2 playing terminals; however, it may be added with a communication input/output processor supporting interaction of the playing server with remote playing terminals through a switched communication line (direct-connection telephone service) and/or batches (TCP/IP – Internet). In this case, a player leaving a "slot machine center" can participate in the game from any other place with the available telephone and computer with modem or, at least, a touch-tone telephone. If the player has access to Internet, the communication input/output processor provides him or her with a whole range of services of a "slot machine center" with a possibility to supplement a personal playing account by means of bank's credit cards; in the absence of access to Internet and with the availability of a computer with modem, the same services may be rendered through a direct telephone connection in the BBS mode (electronic notice board), with the availability of only a touch-tone telephone – through a direct connection in the telephone lottery mode (see, Example 4).

Design of hierarchical structures and clusters from playing systems of different level makes it possible to create corporate playing networks joining in one playing round at a "virtual playing table" of players from different "slot machine centers" and different cities, and enabling, at the expense of mass nature, a rather quick completion of playing rounds of iterative-analytical games on game sets of high power N (N>1,000), thus affording the winners large amounts of winnings in short periods of time.

Example 2. Games In Hotels and Cable Television Systems

Iterative-analytical games may be realized rather simply in hotels in which rooms are equipped with a cable system for broadcasting TV programs requiring payment or intrahotel cable channel for providing information services in the interactive mode. A guest, using a remote control console and a TV screen menu which in this particular case offers the services of a registration-playing terminal, carries on a dialog with a playing system such as if it were in the above-described "slot machine center", while identifying himself by the number of a room occupied and a personal PIN-code. The cost of wagers placed is added to a guest account, wagers won are materialized by the hotel in the money or other form (souvenirs, free-of-charge services, free nourishment, living-conditions enhancement, etc.).

When discharging from the hotel, a guest may file a request for the return of wagers from unfinished playing rounds and be indemnified for the withdrawal of a wager from the

game. In the absence of such a request and in case where the guest has won, a hotel administration may find him or her after discharge with the help of a registration book.

Playing systems of several hotels making use of one trade name and/or being part of a separate holding may be united into clusters and hierarchical structures just as described in Example 1.

Similar procedures may be used for the conduction of iterative-analytical games among subscribers of cable TV systems with interactive services which are widely practiced in view of a wide-spread introduction of asynchronous modes of data, sound and video ATM communications (Asinchronous Transfer Mode – see, A. N. Nazarov, M. V. Simonov. ATM: High-Speed Network Technology. Eco-trends, Moscow, 1998). Each user of such a network is an authorized user of its services with a personal network address, registration number and adjusted payment system, so that the opening of a personal paying account and correction of its balance in the course of the game are trivial procedures for such networks. In this case, instead of the play for money, a game organizer may assign wager prices in units for measuring consumer-payable information resources to be supplied by the network (for example, in the minutes of sport or entertainment program broadcasting time, optionally), and settle accounts with players just in these units using part of resources released as a result of the game conduct (but already paid at the expense of wagers lost) to provide a free or reduced-rate access to networked services to certain groups of the population.

Example 3. National Electronic Lotteries

The existing organization and technological infrastructure for the conduction of traditional national electronic lotteries which contains points of sales <u>terminals for sale</u> of numbered lottery coupons to the population (like "Lotto-Million", see above) with electronic terminals for wager registration, may be used, without substantial alterations, for the conduct of iterative-analytical games. Minor changes will be inserted only to design and assemblage of information fields of lottery coupons in which the following elements will appear: a game type selection field, a field of the game set selection from a predetermined pool of sets and a wager assigning field (the said pool of sets may be represented by integer ranges from 0 to 9, from 10 to 99, from 100 to 999, from 1000 to 9999, etc., so that the belonging of a wager to be assigned to one of such sets is unambiguously determined by a numeric value of this wager), as well as to hardware-software of the central playing server which must be adapted to a wager registration mode with timing separation in order to form turns and supplemented with apparatuses in accordance with the present invention which embody iterative-analytical games. When providing a necessary speed of response of the central playing server and

sufficient channel capacity, an electronic terminal of the point of sales of lottery coupons prints on a player's coupon during registration of his or her wager a registration data and time, a wager accounting number in the current playing round and a round number. Using this data, a player can check his or her coupon-wager against a prize later on, through a lottery information service. In case of a "Force of Zero" instantaneous lottery, the electronic terminal prints an outcome on a player's coupon right after a wager has been read from the coupon and registered by the central server in a corresponding apparatus in accordance with the present invention which embodies a selected game.

To simplify operations concerning the award of prizes and technical realization of the procedures for wager registration in a real time mode, national electronic iterative-analytical lottery games may be conducted according to a multilevel hierarchical scheme of connecting the playing servers, where each level corresponds to a certain range of power N of game sets, so that, for example, N<100 games are processed by servers covering territories with population up to 20-30 thousand people, N<1000 games - by servers covering territories with population up to 100-150 thousand people, N<10,000 games - by servers covering territories with population up to 1.5-3.0 million people, etc. Provision of electron wager registration terminals in the point of sales ~~terminals for selling~~ of lottery coupons with the screens to display the current playing round state enables realization of a full-value interactive mode of conducting iterative-analytical games, thereby making them more attractive to mass consumers in comparison with the existing national lotteries.

Example 4. Telephone Lotteries and TV-Broadcast Games

The organization and technological infrastructure existing in many countries for the conduction of telephone lotteries using touch-tone telephone sets and computer servers carrying out registration of players and wager acceptance by means of a successive generation of voice messages for a speaking subscriber and receipt of his or her answers to these messages in a form of digital codes to be generated by a server when identifying signals sent by a speaker from a touch-tone telephone, may be used with success for the conduction of iterative-analytical games. Technical changes affect only a playing server and comprises adaptation of voice generation programs to the specific nature of iterative-analytical games (selection of a game type, selection of a game set, assigning a wager, confirmation of a wager acceptance with the indication of its number in the turn and the number of a playing round, etc.), introduction in the server hardware-software of a wager registration mode with timing separation in order to form turns and its supplementation with iterative-analytical processors, as well as adaptation of the used database of those participating in the lottery.

In this case, wagers are paid in a fashion conventional for telephone lotteries, that is either by credit cards whose numbers are fixed in a player's personal file when he or she is registered as a game participant, or by drawing up an account to a subscriber's telephone number, or by prepayment. Under a special agreement with a telephone network, another version of mutual settlements between the game participants and authorities may be the assigning of wager prices in units for measuring services rendered by the telephone network (for example, in the minutes of a telephone call within the limits of one telephone zone, so that the playing credits accumulated by the players are converted to the duration of local, trunk or international calls for which a player is exempted from payment), and a telephone network is able to use its own part of revenue from the game to provide a reduced-rate or free service to certain groups of the subscribers.

Implementation of iterative-analytical games in a form of telephone lotteries makes it possible that the players be offered different embodiments of a wager distribution interactive mode. The most comfortable interactive access to information about the current playing round state is ensured to those players having a home computer with modem which may interact with a playing server through Internet or in the direct connection mode. Those players lacking a computer with modem but being subscribers of paging networks, may order transfer of information about a current playing round state to their pagers. Finally, in agreement with TV broadcasting stations, the course of wager drawing processes may be the subject of regular broadcast on the air to TV receiving antennas; during such broadcast, when any wager comes from the players for registration, the server may withdraw from a player's personal playing account the price of two wagers – an additional wager is placed without participation of the player as a compensation for data presentation.

Regular broadcasts of short duration over the course of iterative-analytical games in different time of the day will favor both acceleration of forming the results of each playing round to be broadcast and attraction to such telecasts of additional orders for advertising.

With a special arrangement of the input/output processor (3) of apparatuses for realizing iterative-analytical games in accordance with the present invention, telephone games may also involve those telephone network subscribers who use pulse-dial telephone sets (see, above).

Example 5. Advertising Lotteries Through E-mail

In 1997, the company Harris Online Gaming, Inc., Arkansas, USA, offered the subscription to a free advertising lottery conducted through E-mail (Internet resource http://www.emaillotto.com). Sponsors of this lottery pay the cost of numbered virtual lottery

tickets representing advertisements of these sponsors, said tickets being automatically forwarded to the lottery subscribers through E-mail. Each lottery ticket, apart from an individual number and advertisement, contains some winning numbers which are assigned by the authority randomly and which comparison with an individual ticket number allows the subscriber to determine right away whether his or her ticket received is winning. Moreover, when subscribing to the lottery, each subscriber may assign an arbitrary index of 9 digits to take part in the drawings of the grand-prix in jack-pot conducted regularly (in proportion to financial resources accumulated). Sponsor financial resources drawn in by the game authority are divided into two equal parts, one of which is used for paying current winnings by lottery tickets, the other – for awarding a grand-prix.

The purpose of organizers of this game is to draw in sponsor's advertising means by providing services on the delivery of sponsors' advertisements to subscribers; that is why the game authorities and sponsors are interested in increasing the number of subscribers and advertisements. But the only "magnetic force" of this lottery proposed to its subscribers is the hope of a free prize, whatever interest might be, despite a jack-point provides for the only winning combination out of 362,880 possible, and the method of selecting the winning numbers of lottery tickets by the game organizer avoids the players fully and remains unknown to them.

At the same time, the application of the claimed method allowing to increase the number of those participating in a free lottery by enhancing its playing interest and confidence in the prize-drawing outcome, given the elements of competitive strength, will be equally useful for both the game organizers and sponsors. In fact, when using this method in accordance with the present invention, the lottery subscribers, as before, receive from the organizer, through E-mail, free numbered coupons with each coupon additionally containing a special form the completion of which unambiguously determines the selection of a game type, a game set and a game wager. The players send the completed forms with data about wagers to the server of the game authority, where this data is registered in real time and processed in a corresponding apparatus in accordance with the present invention. In so doing, the server provides the player with a wager registration message containing a regular advertisement which will be noted by the player without fail, since he or she uses every such message for checking against the results of the completed round. The players may accumulate playing coupons in order to use them later on in the interactive mode of the game, while sending part of coupons as a request filed in the game organizer's name for obtaining information about the current round state; and information messages sent in response to the

players may be accompanied by advertisements which will be noted by the players without fail, because messages to be received are used by the players for a purposeful placing of their wagers. Thus, the iterative-analytical method in the embodiment under consideration ensures, apart from enhancing the interest in the game, at least twofold increase in the "advertising return" of each lottery ticket.

Example 6. Games In the Internet Network

From the aforementioned version of conducting the Canadian national lottery "6 of 49" in the Internet network and from above examples it is clear that the adjustment of electronic system of payments through credit cards and possibility of rapid exchange of both text and graphical information makes the Internet network a promising environment for a widespread and full-scale introduction of iterative-analytical games. Technically, such introduction has no difficulties; however, for the countries that impose legislative restrictions on money lotteries to be organized by private persons and companies, it is possible to consider the possibility to conduct iterative-analytical games using servers of those entities providing the Internet services (Internet-providers) with payment of wagers in units for measuring the cost of providers' services (for example, in minutes of the Internet access time). In the latter case, in the course of a game an Internet-provider redistributes the Internet access time paid by the players among them and itself in accordance with playing round outcomes and announced regulations of the prize-fund assignment with the result that the provider is able to offer its services to certain groups of the population and institutions on free-of-charge or preferential terms. This circumstance may promote the drawing of further participants in the game and turn the conduction of iterative-analytical games by Internet-providers into a socially useful measure.

Example 7. Games In Discount and Payment Systems

In the 90s, consumers' markets of many countries were flooded with discount systems designed for the drawing regular customers in large provides of goods and services at the expense of providing these customers with flexible systems of individual rebates (discounts) for goods and services and of other different privileges, where an count of each customer is supplemented with a certain amount of bonus points for each payment received from him or her (or a sum of payments for a certain period of time) followed by realization of accumulated points through the aforementioned system of discounts and privileges.

Implementation of a discount idea has become possible thanks to the introduction by providers of goods and services of hierarchical corporate computer networks covering each cash register through which the sale of a good or service is carried out, and containing

terminals for the registration of new customers in all points of the provider - customer interaction. In the course of registration in the discount system, each customer receives a personal identification number which is applied onto a personal discount card to be handed out to a customer and which is associated in a one-to-one manner with a system file to be created for a customer's personal data and his or her personal account-register for chronological account of all payments, bonus points added and also discounts and other privileges used by the customer (see, for example, Internet resources http://www.gb.be of the Belgian supermarket network GB, http://www.petro-canada.ca of the Canadian gas station network Petro-Canada, http://www.transaero.ru of the Russian airline Transaero). Internet-servers of discount systems not only provide a detailed information about discounts and privileges but also start providing the customer with access via a PIN-code to his or her personal account-register of bonus points and to a personal data file (see, for example, Internet resources http://www.swissair.com/qualiflyer/index.htm of the Swiss airline Swissair, http://www.delta-air.com/skymile/index.htm of the American airline Delta Airlines).

The existing organization and technological infrastructure of discount systems is not only a promising environment for the conduct of iterative-analytical games, but it itself may derive additional benefits from their introduction. An important factor of success of such introduction consists in the fixing of wager prices in bonus points. Indeed, if the Internet-server of the discount system has an application with iterative-analytical games installed, then any participant of the discount system may, without additional registration and above all without new financial expenses, enter into the game while paying wagers with bonus points from his or her personal account in the discount system, bearing in mind that winnings will also be transformed into bonus points on the personal account. In the course of the game, therefore, redistribution of bonus points added to participants of the discount system will occur between them and a provider of goods/services. As a result, the game renders the discount system yet more attractive to the players, whereas a game organizer may, at the expense of bonus points gained from the game, save its own financial resources and/or provide its goods and services to certain groups of the population on a charitable basis.

In case of introduction of iterative-analytical games to discount programs of airlines, passengers may also take part in the games in flight, while paying wagers with bonus points accumulated on a personal account earlier and/or to be added for the conduct of a flight concerned. Use of iterative-analytical games will expand the range of passengers to be registered as participants of the discount program in flight; technical implementation of the

games on board the plane will be determined by equipment of a specific plane with modern machinery and appliances — these may be lotteries with paper coupons (see, the second embodiment of the method in accordance with the present invention), or telephone lotteries with the acceptance of wager through telephone sets installed in each row of seats and regular TV broadcast of the course of playing rounds over airborne cable TV broadcast network (see, Example 4), or full-value interactive games using personal interactive video-monitors of asynchronous airborne network of information services built in the seats (see, Example 2, as well as Swissair Gazette, June'98, p.103).

Numerous bank payment systems by plastic debit and credit cards and also by cards with a built-in chip (the so called smart-cards) the memory of which is loaded with a sum of "electronic" or virtual money backed by real money (see, Internet resource http://www.protonworld.com of the electronic money system Proton), are close to discount systems in respect of the organization and technological infrastructure used. Payments by debit and credit cards are widely spread in medium and large retailers and services, payments with smart-cards are used to pay for everyday petty expenses: urban transport travel, parking time, calls in the public telephone, buying newspapers, etc. Holders of such cards have been identified in the system with the numbers of their cards, PIN-codes and numbers of personal bank accounts, wherein ready money pay out (and load of new "electronic" money in smart-cards) is supported by networks of automatic teller machines each representing a personal computer with a graphic controller. For a special purpose to load smart-cards, there have been created networks of additional electronic terminals with alphanumeric displays which are built in public touch-tone telephones booths or may be acquired by a smart-card holder separately and connected to a telephone set at home for performing operations with "electronic" money without going out of doors.

Interaction Iteration-analytical games as one of applications of electronic payment systems through debit, credit and smart cards, due to their playing interest and sporting competitive strength of the interactive mode, constitute a promising direction in the development of national and municipal electronic lotteries to draw the interest of vast masses of the population.

The second embodiment of a wagering game method may be explained as follows. A game organizer assigns a game set in the form of a table comprising N different elements (for example, 33 letters of the Russian alphabet) and disseminates, among potential players, those playing coupons bearing detachable duplicates each having a unique identification index and information block containing data about the game set elements. The player purchases a

distributor's playing coupon, marks in its information block a game set element on which he or she places a wager and sends the coupon bearing an indication of a wager placed through delivery channels to the game organizer, while retaining a coupon duplicate. The aforementioned delivery channels may comprise the state postal service, a corporate postal service of the game authority, a coupon distribution network.. Those coupons received by the game organizer through delivery channels are registered in the turn of their receipt (registration of coupons received simultaneously may be carried out at random) and allocated, in the registration number priority, under control of the counting committee among elements marked in the coupons as wagers, in accordance with a game set table. After allocation of the regular coupon with a wager, a total number of wagers placed in each element of a game set is calculated, and observation of conditions of a playing round drawing end is checked. In case these conditions are met, the given playing round completes, a prize-fund is estimated and, according to the prize-fund allocation regulations, winning coupons are determined followed by their registration as such in the protocol of a completed wager drawing. Those coupons bearing wagers which missed a given-round drawing, although in turn, take part in drawing the next playing round.

An example of the diagram of a quantitative wager distribution within an unfinished playing round of a "Force of Minimax" game is shown in FIG. 6, where a game set consists of integers from 1 to 20. FIG. 7 shows an example of the diagram of a quantitative wager distribution within a completed playing round, where the number 13 (1 wager) has been fixed as a global minimum, the number 19 (6 wagers) – as a global maximum. A total wager number in this round amounted to 63, so that with a 50 % prize fund, a wager numbered 13 has won the cost of 32 wagers.

When embodying this wagering game method, use may be made of the computer technology, in particular special computer programs and systems of reading data out of paper carriers, thus enabling a rather quick reading of identification data and marks about the placed wagers from coupons and processing of these data and marks by an algorithm which embodies a wagering game method in accordance with the present invention. This embodiment allows to implement the mode of the players' access to information about the current round state and also the mode of the wagers' return from unfinished playing rounds.

Conventional-free lotteries may be an example of using a wagering game under the second method embodiment in accordance with the present invention. Such lotteries are conducted, as a rule, by mass media editorial staffs and management of cultural and entertainment and sporting institutions with the aim to increase a number of copies printed

and fillability of halls. In case of mass media, a lottery ticket is a coupon published in the edition, and completion of the coupon unambiguously identifies a player (see, the newspaper "Moskovsky Komsomolets", No. 96-Б, dated May 25, 1998, p.1), whereas in case of measures of entertainment – a copy of a ticket of admittance with the indication of the date and time of taking a measure and also an address of a seat occupied by a spectator (a sector, row, stall number). The cost of each playing coupon is a part of an edition retail price or ticket of admittance and is only known to a lottery authority. With a conventional lottery, the players are deprived of the possibility to wager, they only must transfer their playing coupons to a game organizer by a fixed date, and the organizer determines the winning coupons by random sampling one or more coupons from a number of all coupons received, while distributing among the winners a prize fund to be determined by a total number of "unobviously sold" coupons.

In case of an iterative-analytical game, each playing coupon has an applied information block enabling the player to indicate as his or her wager one of elements of a predetermined game set with power N (such block may be used, for example, in the form of a table of natural numbers from 1 to 100, or a stencil block consisting of three fields to write down any number from 0 to 999). Coupons with marked wagers coming from the players are included by a game organizer, in the order of arrival priority, in an iterative-analytical coupon drawing process, while registering for each coupon a serial wager number in the current playing round and a number of this round. Usually the destination of conventional-free lotteries does not provide for the making of direct profits as a result of their conduct; therefore, a prize fund amount of the game coincides with the amount of budget of each playing round, thus allowing to guarantee winners' prizes in the amount of no less than N coupons for a "Force of Zero" game and no less than 2N coupons for a "Force of Minimum" game, wherein with N>50-60, in the overwhelming majority of outcomes a prize fund amount of each round of a "Force of Minimax" game will exceed 3N coupons.

Various versions of design and assemblage of information blocks on playing coupons may enable the participants of an iterative-analytical game to choose both a game type ("Force of Zero", "Force of Minimum", "Force of Minimax") and a game set from several predetermined sets characterized by power N. To form the turn of coupons-wagers and run an iterative-analytical coupon drawing process, different methods and means may be used, ranging from a manual sorting and arrangement of incoming coupons among the elements of a game set table under control of a "counting committee" to the application of playing systems equipped with computerized terminals of data reading, recognition and registration,

with the implementation of drawing processes through an application package or special processors similar to those proposed by the present invention. In case of using computer systems, it is advisable to represent outcomes and processes of wager drawing on screens or electronic displays during breaks and on completion of mass measures in order to enhance the interest potential players in the game.

So, the performance of an iterative-analytical process over a waiting line of wagers ensures a full dependence of the game outcomes upon actions of its participants. This enables, along with the possibility to run a nontrivial game even with small powers of a game set N (starting from N=2, 3) and small number of players (from 2 persons) and the possibility to announce, before the game start, a minimum guaranteed prize whose amount may be N times as many as the cost of one wager, while retaining profitableness for a game organizer, to create playing applications so attractive for a mass consumer ranging from instantaneous "paper" or electronic lotteries and slot machines to national interactive telephone lotteries and international games through on-line services and Internet.

ABSTRACT

The present invention consists of an apparatus and a method for enabling multiple users to engage iterative-analytical wagers.   An aspect of the gaming method comprises the steps of defining a game set consisting of a plurality of information elements; establishing a series of wager selection rules   defining the selection of a winning wager based on the plurality of information elements, the wager selection rules including preconditions for a wager drawing end based on a quantitative wager distribution among the information elements, and rules for defining the winning wager or wagers at the end of each wager round receiving and registering one or more wagers from one or more players, whereby the wagers correspond to the plurality of   information elements, and the wagers registered define cumulatively a quantitative wager distribution; iteratively processing and analyzing the successive quantitative wager distributions to establish whether the preconditions for the wager drawing end have been achieved, and terminating the wager round where wager selection rules indicate a wager drawing end. The present invention also includes a series of particular methods for implementing the gaming method described above in the context of particular hardware devices that enable wagers to be placed by the plurality of users, and the wagers to be registered and processed by the game administrator. The present invention also includes a series of circuits that implement the methods described herein.

What is claimed is:

1. ~~A wagering game method which comprises forming of a game set of N>1 information elements by means of generation of a set of N non-repeating information codes in a computer memory, propagation, among the players through communication lines, of signals carrying information about the game set elements, selection by every player of one of the game set elements as a wager, forwarding, through feedback communication lines, of signals which identify the players and carry information about the wagers, identification and registration of signals received through feedback lines, forming of a wager payment data, a wager drawing within playing rounds, characterized in that the signals carrying wager information are registered as a sequence of signals in the order of signal arrival through feedback lines, said sequence is kept hidden from the players until the playing round is completed, and the wager drawing is carried out by means of an iterative analytical process of forming a quantitative wager distribution among the game set elements, said process is kept hidden from the players until the playing round is completed, and within every iteration of the said process a regular signal of a registered signal sequence is correlated with the information code of the game set element selected as a wager by the player, the number of signals correlated with the information code of the game set element within the current playing round is determined, observation of conditions of a wager drawing end is checked, and a wager drawing is completed as soon as the said conditions are observed, and in the presence of registered wager information carrying signals not processed by the iterative analytical wager drawing process before the completion of the current playing round the said signals are processed by the iterative analytical wager drawing process within one of the next rounds.~~ A wagering game method which comprises the following steps:

    (a)   defining a game set of N>1 information elements by generating a set of N non-repeating information codes in a computer memory;

    (b)   communicating to a plurality of players via a communication medium one or more communications including information about the information codes;

    (c)   selection by each of the plurality of players of one or more information codes as a wager;

    (d)   receiving communications from the plurality of players that include information about the wager or wagers of the plurality of players, and identification data for each of the plurality of players;

(e) registration of the communications from the plurality of players within one or more playing rounds whereby the order of arrival of the communications defines a sequence of wagers, which sequence is kept hidden from the players until the current wager round is completed;

(f) drawing wagers by means of an iterative-analytical process consisting of iterative defining a quantitative wager distribution based on the information codes of the wagers registered in sequence, and comparing the quantitative wager distribution on each iteration to rules predefined for determining a wager round end and the winning wager for the wager round, the iterative-analytical process being hidden from the players until the current playing round is completed; and

(g) implementing the wager drawing end upon observation of the wager round end.

2. The A method as claimed in of claim 1 whereby characterized in that within in every iteration of the a wager drawing process, the information codes are identified revealed in relation to with which no signal has been correlated within the current playing round, and the iterative-analytical wager drawing process is completed by in the processing of a signal containing information corresponding to an information code for which about a wager on the only game set element with whose information code no signal has been previously correlated by the iterative-analytical process within the current wager playing round before the processing of this signal.

3. The A method as claimed in of claim 1, whereby characterized in that within every iteration of the a wager drawing process, starting with the N iteration, the information codes are identified revealed with which no signal has been correlated within the current wager playing round, and the iterative-analytical wager drawing process is completed in the processing of a signal containing information corresponding to an information code for which about a wager on the only game set element with whose information code no signal has been correlated by the iterative-analytical process within the current playing round before the processing of this signal.

4. The A method as claimed in of claim 1, whereby characterized in that within every iteration of the a wager drawing process, the information codes are identified revealed with which only one signal has been correlated within the current wager playing round, and the

iterative-analytical wager drawing process is completed in the presence of only one said information code and in the absence of information codes with which no signal has been correlated by the iterative-analytical process within the current <u>wager</u> playing round before the processing of this signal.

<u>The</u> A method <u>as claimed in</u> of claim 1, <u>whereby</u> characterized in that

5.   within every iteration of <u>the</u> a wager drawing process, starting with the (2N-1) iteration, information codes are <u>identified</u> revealed with which only one signal has been correlated within the current <u>wager</u> playing round, and the iterative-analytical wager drawing process is completed in the presence of only one said information code and in the absence of information codes with which no signal has been correlated by the iterative-analytical process within the current <u>wager</u> playing round before the processing of this signal.

6.   <u>The</u> A method <u>as claimed in</u> of claim 1, <u>whereby</u> characterized in that with a <u>the</u> game set <u>is</u> formed by N>2 information elements, <u>and</u> within every iteration of <u>the</u> a wager drawing process, information codes are <u>identified</u> revealed with which <u>a</u> the minimum and <u>a</u> maximum number of signals <u>have been defined and </u>have been correlated within the current <u>wager</u> playing round, and the iterative-analytical wager drawing process is completed in the presence of only one information code with which the minimum number of signals has been correlated within the current playing round, of only one information code with which the maximum number of signals has been correlated within the current playing round, and in the absence of information codes with which no signal has been correlated within the current playing round.

7.   <u>The</u> A method <u>as claimed in</u> of claim 1, <u>whereby</u> characterized in that with a <u>the</u> game set <u>is</u> formed by N>2 information elements, <u>and</u> within every iteration of <u>the</u> a wager drawing process, starting with the 2N iteration, information codes are <u>identified</u> revealed with which <u>a</u> the minimum and <u>a</u> the maximum number of signals <u>have been defined and </u>have been correlated within the current <u>wager</u> playing round, and the iterative-analytical wager drawing process is completed in the presence of only one information code with which the minimum number of signals has been correlated within the current <u>wager</u> playing round, of only one information code with which the maximum number of signals has been correlated within the current <u>wager</u> playing round, and in the absence of information codes with which no signal has been correlated within the current <u>wager</u> playing round.

A wagering game method which comprises <u>the steps of:</u>

forming of a game set of N>1 non-repeating information elements,

propagating propagation among one or more the players of playing coupons carrying information about the contents of the game set information elements,

entering of identification data onto the said coupons,

selection marking of one of the game set information elements by every player as a wager selected,

return of the coupons with the wager selection marks on them to the game administrator to effect wager drawing,

8.   registration of the returned coupons with the selected marked wagers and the results of the wager drawings within playing rounds, such characterized in that the coupons with the wager marks on them are registered as a sequence of coupons in the order of their arrival on return arrival, said sequence being is kept hidden from the players until the playing round is completed, and the wager drawing is carried out by means of an iterative-analytical process of forming a quantitative wager distribution among the game set information elements, said process being is kept hidden from the players until the playing round is completed, and within every iteration of the said process a regular coupon of a registered coupon sequence is correlated with the game set information element selected as a wager by the player, the number of coupons correlated with each information element of the game set within the current playing round is determined, observation of defined conditions of a wager drawing end is checked, and the wager drawing is completed as soon as the said conditions are observed, and in the presence of registered coupons carrying wager marks which are not processed by the iterative-analytical wager drawing process before the completion of the current playing round, these coupons are processed by the iterative-analytical wager drawing process within one of the next rounds.

9.   The A method as claimed in of claim 8, whereby characterized in that within every iteration of the a wager drawing process, the game set elements are identified revealed in relation to with which no coupon has been correlated within the current playing round, and the wager drawing is completed with an iterative-analytical processing of a coupon containing a wager mark corresponding to the only game set element with which no coupon has been correlated within the current wager playing round before the processing of this coupon.

10.   The A method as claimed in of claim 8, whereby characterized in that within every iteration of the a wager drawing process, starting with the N iteration, the game set elements are identified revealed in relation to with which no coupon has been correlated within the current wager playing round, and the wager drawing is completed with an iterative-analytical processing of a coupon containing a wager mark corresponding to the only game set element with which no coupon has been correlated within the current playing round before the processing of this coupon.

11.   The A method as claimed in of claim 8, whereby characterized in that within every iteration of the a wager drawing process, the game set elements are identified revealed in relation to with which only one coupon has been correlated within the current wager playing round, and the wager drawing is completed in the presence of only one such element and in the absence of in the game set of elements with which no coupon has been correlated within the current wager playing round.

12.   The A method as claimed in of claim 8, whereby characterized in that within every iteration of the a wager drawing process, starting with the (2N-1) iteration, the game set elements are identified revealed in relation to with which only one coupon has been correlated within the current wager playing round, and the wager drawing is completed in the presence of only one said element and in the absence in the game set of elements with which no coupon has been correlated within the current wager playing round.

13.   The A method as claimed in of claim 8, whereby characterized in that within with the a game set formed by N>2 information elements, and within every iteration of a wager drawing process the game set elements are identified revealed in relation to with which a the minimum and a the maximum number of coupons have been correlated within the current playing round, and the wager drawing process is completed in the presence of only one element with which the minimum number of coupons has been correlated within the current playing round, of only one element with which the maximum number of coupons has been correlated within the current playing round, and in the absence of game set elements with which no coupon has been correlated within the current playing round.

14.   The A method as claimed in of claim 8, whereby characterized in that within with a game set formed by N>2 information elements, within every iteration of a wager drawing process, starting with the 2N iteration, the game set elements are identified revealed in relation to with which a the minimum and a the maximum number of coupons have been

correlated within the current playing round, and the wager drawing process is completed in the presence of only one element with which the minimum number of coupons have been defined and has been correlated within the current wager playing round, of only one element with which the maximum number of coupons has been correlated within the current wager playing round, and in the absence in the game set of elements with which no coupon has been correlated within the current wager playing round.

15.   The A method as claimed in of claims 1- to 14, whereby characterized in that, on request of a player, he or she is provided with accumulated information about current quantitative wager distribution among the information game set elements relating to an unfinished playing round, and the said information elements is are provided presented to the player in exchange for a wager which is placed without his or her participation and processed by the a wager drawing process out of turn.

16.   The A method as claimed in of claims 1- to 14, whereby characterized in that, on request of a player, before the completion of a wager playing round, signals or coupons containing a wager information which was were received from the said player are withdrawn from the a wager drawing process in the order opposite to that of their registration.

17.   A wagering game apparatus to carry out a method as claimed in claim 1, comprising a game set forming unit (1) connected via data dissemination unit (2) to one of inputs of a processor (3) connected with its information output to a recognition and identification unit (4), a wager payment unit (5), a wager registration unit (6), a controller (7), a playing-logic unit (8), and a recording unit (9) which are connected in series, a playing-round counter (10) connected to the second input of the wager registration unit (6) and to the second output of the controller (7) connected with its second input to the output of the game set forming unit (1), a long-term memory unit (14) interconnected with the recognition and identification unit (4) and the wager payment unit (5), a timer (17) connected to the controller (7), the recognition and identification unit (4), the wager payment unit (5), and the recording unit (9), characterized in that it further comprises a wager distribution processor (11) interconnected with the controller (7), a wager registration confirmation unit (12) connected to the input of the processor (3) and the second output of the wager registration unit (6), a payment registration unit (15) and an outcome review unit (16) which are interconnected with the long-term memory unit (14) and the processor (3) and also connected to corresponding outputs of the recognition and identification unit (4), the outputs of the recording unit (9) and

the wager registration confirmation unit (12) being connected to corresponding inputs of the long-term memory unit (14).

18.   An apparatus of claim 17, <u>further comprising</u> characterized in that it comprises a wager generator (13) interconnected with the recognition and identification unit (4) and also connected to the output of the game set forming unit (1).

19. · An apparatus of claims 17- to 18, <u>further comprising</u> characterized in that it comprises a wager drawing display unit (18) coupled between the controller (7) and the input/output processor (3).

An apparatus of claims 17 - <u>to</u> 18, <u>further comprising</u> characterized in that it

20.   comprises a wager returning unit (19) interconnected with the controller (7) and the long-term memory unit (14) and also connected to an output of the recognition and identification unit (4) and an input of the input/output processor (3).

21.   An apparatus of claims 17- to 20, <u>wherein</u> characterized in that the wager distribution processor (11) <u>includes</u> comprises a decoder (20) connected with its outputs to driving inputs of flip-flops (21) which are connected with their outputs to inputs of a "logical AND" gate (22) connected with its output to reset inputs of the flip-flops (21).

22.   An apparatus of claims 17- to 20, <u>wherein</u> characterized in that the wager distribution processor (11) <u>includes</u> comprises a decoder (20) connected with its outputs to <u>the</u> inputs of counters (23) whose outputs are connected, via comparison units (24), to inverse inputs of a <u>further</u> "logical AND" gate (25) connected with its output to reset <u>the</u> inputs of the counters (23).

23.   An apparatus of claims 17- to 20, <u>wherein</u> characterized in that the wager distribution processor (11) comprises a decoder (20), each of N 1-bit outputs of the said decoder being coupled to a stage of <u>the</u> a counter (23) and of a null-comparison unit (24) and a 1-comparison unit (27) which are connected in parallel to the said counter (23), a "logical AND" gate (25) with N inverse inputs each coupled to the output of the corresponding null-comparison unit (24), an "exclusive OR" gate (28) with N inputs each coupled to the output of the corresponding 1-comparison unit (27), a "logical AND" gate (29) with two inputs connected to outputs of the gates (25) and (28), and an encoder (30) with N inputs each coupled to the output of the corresponding 1-comparison unit (27), the said gate (29) being

connected with its output to reset inputs of the counters (23) and to a control input of the encoder (30).

24.   An apparatus of claims 17- to 20, wherein characterized in that the wager distribution processor (11) comprises a decoder (20), each of N 1-bit outputs of the said decoder being coupled to a stage of a counter (23) and of a null-comparison unit (24), a minimum-comparison unit (31), and a maximum-comparison unit (32) which are connected in parallel to the said counter (23), a "logical AND" gate (25) with N inverse inputs each coupled to the output of the corresponding null-comparison unit (24), a first "exclusive OR" gate (28-1) with N inputs each coupled to the output of the corresponding minimum-comparison unit (31), a first "logical AND" gate (29-1) with two inputs connected to outputs of the gates (25) and (28-1), a second "exclusive OR" gate (28-2) with N inputs each coupled to the output of the corresponding maximum-comparison unit (32), a second "logical AND" gate (29-2) with two inputs connected to outputs of the gates (29-1) and (28-2), a first encoder (30-1) with N inputs each coupled to the output of the corresponding minimum-comparison unit (31), a second encoder (30-2) with N inputs each coupled to the output of the corresponding maximum-comparison unit (32), a minimum-counter (33) coupled to the output of the gate (29-1), the said minimum-counter (33) being connected with its output to the input of each of minimum-comparison units (31), and a maximum-counter (34) coupled to the output of the gate (28-2), the said maximum-counter (34) being connected with its output to the input of each of maximum-comparison units (32), the said gate (29-2) being connected with its output to reset inputs of the counters (23), (33), (34), the said gate (29-1) being connected with its output to a control input of the first encoder (30-1), the said gate (28-2) being connected with its output to a control input of the second encoder (30-2).

25.   An apparatus of claims 17- to 24, wherein characterized in that the input/output processor (3) includes a telephone exchange for at least N telephone numbers with an automatic speaker's telephone number determinant and a controlled voice generator.

26.   An apparatus of claims 17- to 24, wherein characterized in that the input/output processor (3) includes a computer network server and a unit for contacting clients of the said network.

A method of claims 1- to 14, whereby characterized in that within in every

27.   iteration of the a wager drawing process the player, for which a whose signal or coupon with wager information is being processed within this iteration, information is being

sent through communication lines including an information about a serial number of this iteration in the wager playing round, in which the wager is being processed, and about a serial number of this wager playing round.

28. A gaming method comprising the steps of:

    (a) defining a game set consisting of a plurality of information elements;

    (b) establishing a series of wager selection rules defining the selection of a winning wager based on the plurality of information elements, the wager selection rules including preconditions for a wager drawing end based on a quantitative wager distribution among the information elements, and rules for defining the winning wager or wagers at the end of each wager round;

    (c) receiving and registering one or more wagers from one or more players, whereby the wagers correspond to the plurality of information elements, and the wagers registered define cumulatively a quantitative wager distribution;

    (d) iteratively processing and analyzing the successive quantitative wager distributions to establish whether the preconditions for the wager drawing end have been achieved, and

    (e) terminating the wager round where wager selection rules indicate a wager drawing end.

29. The method as claimed in claim 1 comprising the further step of determining the identity of the player associated with the wager and establishing the status of that player's player account to establish if sufficient credits are available to place the wager and simultaneously debiting the player account for the amount wagered.

30. The method as claimed in claim 1, comprising the further step of carrying wagers not processed by the iterative-analytical wager drawing process before the completion of the current playing round to a subsequent round for processing by the iterative-analytical wager drawing process.